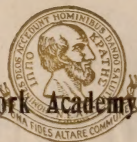




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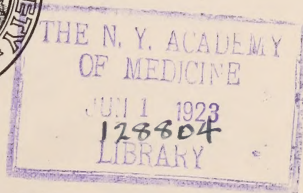
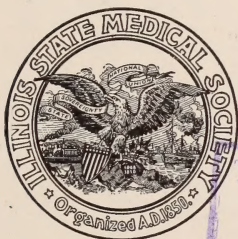
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INDEX TO VOLUME XLII

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July to December, 1922

This is an alphabetical index of articles and discussions arranged by leading words. It contains occasional cross references. Names of authors and men who discussed the papers are also included. Details of society proceedings, including the titles

of papers read, officers elected, etc., can be located in the proceedings under Societies, Editorials, News of the State, Marriages, Deaths. The subjects of editorials also appear alphabetically and are marked (E).

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## Original Articles

### MATERNAL DEATH STATISTICS—A STUDY\*

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A little over a year ago, a noted English author visited these United States. During his sojourn in this country, he delivered a series of lectures. The title of one of his lectures was "The Ignorance of the Educated." Would that some medical Chesterton could address the educated physicians of the United States on their ignorance concerning the activities of certain groups of people who are attempting to secure legislation on medical matters in this country. I do not desire to emulate Chesterton, the wonderful analyzer of paradoxes, but I do think the medical profession and especially the medical profession of the great state of Illinois should be made cognizant of the truth about the statements which have been published far and wide on the number of "maternal deaths," so called, that occur yearly in this country. For these statements furnish the basis of propaganda for such laws as the Sheppard-Towner Law recently passed, but which happily has not been accepted by all the states.

This paper has as its title "Maternal Death Statistics—A Study." The author chose this title in the hope it would lead some of the members of the Illinois State Medical Society also to study the causes of deaths in the puerperal state, or the so-called "maternal death," and after a careful and comprehensive study, to give to the profession of your State the truth and the scientific data on which their conclusions have been formed. No one will be afraid of the truth, and after these studies have been completed, give the result to the laity, the great mass of the

people. Be as wide as you please in your vision, but be accurate. Study the problem, if it is a problem, from all sides and all angles. It will not be an easy task but its successful accomplishment will redound to the credit of the investigator and to the honor of the medical profession.

To properly study maternal mortality statistics one must understand the plan according to which these statistics are collected. Previous to 1893, no two countries in the world employed precisely the same forms and methods for the statistical classification of the causes of death. Without a uniform classification, statistics collected in one country were not comparable with statistics collected in other countries. To bring about uniformity in the collection of death statistics, representatives from all civilized countries have adopted what is called "The International List of the Causes of Death." The authors of this list say that the list is not for scientific purposes but for statistical purposes.

This "International List of the Causes of Death" is now used by nearly every civilized country in the world. All the western continent, including North, Central and South America, the British Empire with all its dependencies, and most of Europe, are by mutual agreement using this list. This list is revised every 10 years by a committee representing the various countries which have adopted the International Classification.

The list is divided into 14 tables, and these Tables are subdivided into about 189 divisions. The Table that concerns us today in this Classification is Table No. 7, the name of which is the "Puerperal State." In explanation of the phrase "puerperal state," the list makes the following definition:

The word "puerperal" is used in the broadest sense to include all affections dependent upon pregnancy, parturition, and also diseases of the breast during lactation. It is to be understood as a qualification of every term included in this group and is so expressed in the Index for many terms that might be or may

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not be puerperal. The fact that child-birth occurred within one month of death should always be stated even though it may not be the cause of death. Whenever a woman of child-bearing age, between 15 and 44, especially if married, is reported to have died from certain causes which might have been puerperal, the local registrar should endeavor to secure a definite statement from the reporting physician.

The "Puerperal State" is divided into eight subdivisions, as follows:

1. Accidents of Pregnancy.
2. Puerperal Hemorrhage.
3. Other accidents of Labor.
4. Puerperal Septicaemia.
5. Puerperal Albuminuria and Convulsions.
6. Puerperal Phlegmasia Alba Dolens, Embolus, Sudden Death.
7. Following Childbirth (not otherwise defined).
8. Puerperal Diseases of the Breast.

According to the Manual of the International Classification, there are about 60 ways in which death due to "Accidents of Pregnancy" may be expressed. There are 22 ways by which you might write "Puerperal Hemorrhage" as the cause of death. There are 49 ways, more or less, in which you might express deaths from "Other Accidents of Labor." There are 45 different expressions that may be used to say that the patient died of "Puerperal Septicaemia." There are 30 ways, more or less, by which you could sign a death certificate describing the death by "Puerperal Albuminuria and Convulsions." There are 12 different expressions that could be used in saying that the patient died of "Puerperal Phlegmasia Alba Dolens, Embolus, Sudden Death." The death "Following Childbirth, not otherwise defined," may be expressed in 8 ways. You have a choice of 18 ways in which you could express the death of "Puerperal Diseases of the Breast."

Now let us get this classification firmly fixed in our minds. I have taken as the title of my paper "Maternal Death Statistics." I have used the word "Maternal" in deference to public custom. There is no such term as "Maternal Death" in any scientific book of obstetrics that I have ever seen. The "International List of the Cause of Death" does not recognize the term "Maternal Death." All these deaths statistically occur in the puerperal state, and a death in the puerperal state means a death during pregnancy, parturition, or lactation, or one that occurs within one

month after the cessation of any of these three functions that can in any way be connected with the term "Puerperal Death." So that when it is expressed by some people that 16,000 mothers died in the United States as the result of child-birth, that expression is not true. There were 16,000 women who died in the puerperal state, some of them never were mothers. They may have been potential mothers. Nature, sad as it may seem, never intended that some of these should be mothers. So that every death that occurred after miscarriage, whether spontaneously or induced, every death from extra uterine pregnancies, whether operated or not, every death, in other words, that occurs while the woman is in the puerperal state and that state is likely to exist for 18 months, is a so-called maternal death. For example, let me illustrate in a city of Massachusetts about a year ago, occurred the death of a woman after miscarriage. She had been suffering from valvular disease of the heart for 17 years. She married, she miscarried at two months, she died, and her death was reported as a death in the puerperal state, and consequently a maternal death. In another case, and this death occurred in Massachusetts, a pregnant woman developed a temperature of unknown origin shortly after she became pregnant, and this temperature lasted until her confinement, when she was delivered of a macerated foetus at full term. Still the patient carried a temperature. The surgeon was called in and made a diagnosis of fibroid of uterus, a hysterectomy was advised and done. The diagnosis of fibroid of uterus was confirmed. The patient died, and the cause of death was stated as puerperal septicaemia. Another maternal death, so-called. Now these are not isolated examples. I have no doubt but that the records of Massachusetts will show that at least 10 or 12 cases of puerperal septicaemia due to self-induced abortions occur every year, and these are classed as maternal deaths or deaths in the puerperal state.

These deaths are collected from what is called the "registration area." The "registration area" in the United States in 1919 included 33 states, the District of Columbia, and 18 cities in non-registration states. To be accepted in the "registration area" a state or city must register at least 90 per cent. of all deaths that occur within its border, and that the data at hand shows that the

death was recorded properly under state law, or for cities, under municipal ordinances.

Now it may be interesting to you to know that the state of Texas is not in the "registration area," according to the last Census Report. That is the state from which Mr. Sheppard hales. And it might also be interesting for you to know that Iowa is not in the "registration area" of the United States. I suppose Texas was too busy passing laws in regard to the length of sheets in hotels, and Iowa too busy looking after the cattle and grain and other products to add anything to our scientific knowledge of the causes of deaths in their respective states, and thereby aiding directly scientific research. It is true that certain cities of Texas, namely, Beaumont, Cleburn, Dallas, El Paso, Galveston, Houston, and San Antonio, are in the "registration area," but no city of Iowa, or town, is in the "registration area." So that you will not find any statistics published by the Census Bureau as coming from the state of Iowa.

Massachusetts, New Jersey, and the District of Columbia have been in the "registration area" for 42 years, and it stands to reason that the longer a state or city is in the "registration area" that the more accurate will be their reports. In accuracy in reporting deaths, Ohio, Minnesota, and Massachusetts are the three leading states in the United States. By quering physicians in the "registration area" in 1919 for more accurate data, the Census Bureau added 259 deaths to the deaths in the puerperal state from the result of this investigation.

How are these rates computed? They are computed in this manner. First, all the deaths in the puerperal state are found out. Then the deaths in the puerperal state are compared with the 10,000 live births, and in that way the death rate is obtained. So that when people say "so many mothers died," they are not stating exactly the truth. When they say "the maternal death rate has been such an such," it means that the whole number of deaths in the puerperal state compared with 10,000 live births, the rate is so and so. Sometimes the deaths are estimated per 100,000 population. This gives a different rate than if estimated by the 10,000 live births.

Now this may seem an unfair method, but the author thinks that the classification is the best classification that can be made, and has no fault

to find with it as a classification, but all who talk about maternal deaths should know under what conditions and according to what plan these deaths are classified. Otherwise, conclusions that are not justified are drawn, and statements which are inaccurate are made, based upon these conclusions. Evidently many writers have gone to the reports on statistics without analyzing the methods by which these statistics have been collected. This is not fair to the people of the United States nor to the medical profession, and it is this misinterpretation of statistics with which most men who have been honest and fair in their analyses find fault.

Are puerperal deaths increasing or decreasing in the United States? Nobody knows. And I will quote from the "Mortality Statistics of 1919, of the Census Bureau," their statement in regard to this question. It occurs on page 46, and is as follows:

Are the puerperal causes of death an increasing or a decreasing danger to the women of the United States? This question is difficult to answer, for to measure this factor properly one should know not only the number of deaths from these causes, but also the number of pregnant women. This last figure is not obtainable, but a fair answer to the question, for normal years, may be obtained for states and cities within the birth registration area by calculating rates per 1,000 live births. Rates of this kind are shown in the following table and are well worth careful study.

That is a calm and judicial statement. It confesses that it doesn't know and recommends that the tables submitted by the Bureau in regard to puerperal deaths are well worthy of further study. But this admonition did not prevent some of the enthusiastic supporters of the Sheppard-Towner Bill from placing the United States sixteenth or seventeenth among the nations of the world in rank from deaths from puerperal causes or from what they so glibly tell as "maternal deaths."

In the course of my study as a member of the Maternity and Infant Welfare Committee of the Massachusetts Medical Society, I was struck by the difference of the maternal death rates in cities and in the country. Invariably, there were fewer maternal deaths in the country than in the cities. I find that this observation was also noted in the "Report of the United States Census Bureau, Mortality Statistics, 1919," where it says on page 48 of that Report:

Special attention is called to the fact that for both white and colored for each of the five years, 1915 to

1919, the death rate from all puerperal causes and puerperal septicaemia are without exception lower for the rural part of the birth registration area than for the urban. Among the states for 1919, South Carolina has the highest rate of 11.2 from all puerperal causes, and Wisconsin the lowest, 4.8. Among the cities of 100,000 inhabitants and over shown for 1919, Scranton has the highest, 11.8 from all puerperal causes, and New Haven and Fall River the lowest, each 4.1.

Now let us consider the matter of extra-urban death rates among women in the puerperal state in a smaller sphere. In 1920 there were 20 cities and towns in Massachusetts varying in population from 10,036 to 43,184 which reported no deaths from puerperal septicaemia. Of these 20 cities and towns there were 6 which did not report a death in the puerperal state. Of 43 towns between 5,000 and 10,000 inhabitants, 31 had no deaths from puerperal septicaemia. Of these 31, 22 had no puerperal deaths at all in 1920. These statistics compel us to study perhaps local conditions both social and economic.

Much has been written concerning the rates in maternal mortality of the United States and other countries. I have not been able, with the time at my disposal, to study in what way maternal death rates are collected in other countries, but I do find in studying the English situation that there is quite a difference in methods of computing maternal death rates in England and those of the United States. In the first place, the registrar general reports deaths in England and Wales, these are the so-called English statistics. The registrar general of Scotland reports the Scottish deaths. The authorities in Ireland report deaths from Ireland, so that we have not any authoritative statement of the deaths in Great Britain and Ireland as a whole. In the United States, the Census Bureau collects and publishes the list of the causes of deaths that occur in the United States. Again the registrar general of England and Wales, when comparing deaths that take place in the puerperal state, makes certain deductions. For instance, if the classification was changed in 1910 and he wishes to compare the death rate of any year after 1910, with any year previous to 1910, he takes out of the death rate those deaths which were not included in the international list previous to 1910. So that when he compares the lists, they are lists which have the same causes of deaths. Perhaps I could illustrate this better by citing you an ex-

ample. It is contained in a quotation from the British Medical Journal of March 5, 1921:

It is a disheartening and almost humiliating discovery to find by the registrar general's report that puerperal mortality in England and Wales, both as a whole and as regards puerperal septicaemia separately, was greater in 1919 than in any year since 1905. The number of deaths assigned to pregnancy and childbirth was in 1919, 3,028, correspondent to a rate of 4.37 per thousand births. But in order to compare the causes of death under the classification in use up to 1910, 176 deaths allocated to puerperal pneumonia and albuminuria, formerly not distinguished as puerperal, are deducted. This brings the 1919 mortality rate down to 4.12 per thousand births as against an average rate of 3.74 in ten years immediately preceding. Unfortunately, the registrar general finds that the increase in 1919 is preponderantly due to septic diseases which is very difficult to explain.

The registrar general divides deaths of women in pregnancy and childbirth into two large classes—the first contains 3,028 classed as due to puerperal septicaemia and other accidents of childbirth. The other class consists of 1,337 deaths of women not classed as due to pregnancy or childbirth but associated with; "Inclusion of these deaths raise the proportion of deaths caused by or associated with pregnancy and childbirth to 6.3 per thousand births." The rate of 6.3 per 1,000 births is higher than the rate in some states of the United States, as has been quoted above. The United States Census Bureau does not make any distinction in women who die in the puerperal state. The English make this distinction: those that die from puerperal septicaemia and other accidents of childbirth, and another class which is designated as deaths associated with pregnancy. It again divides those associated with pregnancy into 2 classes. The first includes deaths due to conditions, usually acute, which do not arise from pregnancy or childbirth, such as influenza, lobar pneumonia, bronchial pneumonia, scarlet fever, appendicitis, etc. The second class consists of those associated with pregnancy or childbirth with pre-existing, usually chronic pathological state, such as heart disease, tuberculosis, brights disease and epilepsy. No such explanation is given by the United States Census Bureau.

In all countries there has been a very perceptible decrease in infant mortality, but in deaths of children under 1 week comparatively little progress has been made. That is the case



not only in this country but in the countries of Europe.

It seems to be an obsession with some of the proponents of maternity legislation not to treat their own country fairly or justly. Bound up with the question of reducing the maternal deaths is the question of reducing infant mortality. One speaker before a recent Congressional Committee said that in 1917 the English death rate among babies under 1 week of age was 23 as against ours of 30. The United States Census Bureau, which is the official machine for collecting statistics, says:

As the number of births is known in but two-thirds of the 33 states of the death registration area, no consideration of infant mortality in the usual way of the entire death registration area is possible.

In the light of this comment it is unfair to United States to compare England and Wales with the United States on account of the different methods used in computing infant mortality in the two countries.

In England and Wales infant mortality is measured by the proportion of deaths under 1 year of age to the registered births which seems a fair way of estimating infant mortality. But until United States has an adequate birth registration any comparison with a country that has an adequate birth registration is futile. It also stands to reason that infant mortality in the United States would be lower on account of the methods we have used throughout the country to bring pure milk to the homes of our people.

One of the greatest obstacles in England to securing a pure milk supply is the obstinacy of English farmers to adopt any of the modern means for securing pure milk. They even profess to believe that tuberculosis germs may be consumed with impunity. The author has only to refer you to the Second Report of the National Birth Rate Commission on "Problems of Population and Parenthood" to show how very far behind England is in protecting her milk supply.

Further, we have the testimony of the personal experience of Dr. Royal S. Copeland, Commissioner of Health from New York City, who recently gave account of his experience as quoted in the *New York Times* of Saturday, May 6, 1922, in referring to the work of the Health Department of New York City. In this conver-

sation he referred to the help he received from Lady Astor and this is what he said:

Last year I was in England and my boy was poisoned by the milk. Every drop of their milk was poisoned by colon bacillus. Ten per cent. of the milk had tuberculosis germs. Of twenty-eight dairies, only one served a quality of milk which we would use for cooking. I took those facts to Sir George Newman, Chief Medical Officer of the Ministry of Health.

"Do you dare to take that report to Lord Astor?" he asked. Lord Astor was Chairman of the Department of Milk.

"I'd dare take them to the Almighty," I answered.

"I was not able to reach Lord Astor at first, but I saw his secretary and I was asked to luncheon at his house. Lady Astor nearly dropped dead when she heard the statistics. She made a speech in Parliament about it. Later, a representative of the United Dairy Company was sent over here to learn our method of sterilization and a representative of one of our big dairy companies went to England to aid in establishing a plant. So that it is through Lady Astor that England is getting pure milk.

Are there 28 dairies in Illinois, only one of which is selling a quality of milk which we would use for cooking? Are there any dairies in Illinois where the colon bacillus is so numerous that it pervades every drop of milk? Does ten per cent. of the milk that is produced or consumed in this state contain tuberculosis germs? And yet this great country, England, which knows nothing, apparently, about the virtues of pasteurization of milk is held up to a Committee in Congress by an eminent specialist of New York as a model to follow and one whose example we should imitate.

May I be permitted to add to Dr. Copeland's personal experience the report from the English Birth Rate Commission concerning the milk supply, wherein it says:

It has been found to be useless to discuss the subject with farmers, who, with few exceptions, are hide-bound by erroneous tradition regarding the housing of cows and completely indifferent to the need for all-round cleanliness. Dr. Reid's utmost efforts failed in inducing even one farmer in Staffordshire to make use of the side-inlet milking-pail so largely used in America, a simple substitution which, it is estimated, is instrumental in reducing the dirt in milk by no less than eighty per cent. Further, they still firmly believe that a high yield of milk can best be secured by keeping the cows in as nearly as possible hermetically sealed sheds, and they profess to believe that tuberculosis milk may be consumed with impunity.

The same Report contains the statement of Dr.

George Reid, G. P. H., on page 102 of the "Evidence":

It is a solemn process, the storing of milk in a dairy, but unfortunately eighty or ninety per cent. of the dirt is already in the milk, and it is really pathetic to see the great care taken after the mischief is done, which is immediately the milk leaves the cow. This arises from the horrible state in which the cows are kept, the entire absence of grooming, the dirty condition of the milker, and the absence of all care to keep dirt out of the milk. . . . "The cows are kept in most disgusting conditions, and in larger towns the authorities have to go to endless trouble, involving an enormous amount of work, in order to maintain anything like a quality as regards freedom from dirt, etc.

All of which evidence must be very interesting to your very efficient milk commission in Chicago.

But I am not quite done with English conditions and I want to call your attention to another cause of death among English infants. It is a cause that does not appear in the international list of the causes of deaths, but in England it is a very important matter. It is called "over-laying." In other words, the death of infants from suffocation. This condition shows a side light on the English social conditions. "Over-laying" or suffocation of infants means the over-lying of the mother on the young child and it generally happens when the mother is intoxicated. A quotation from the Report of the National Birth Rate Commission follows:

We now pass to the consideration of the influence of parental intemperance as a factor in the deterioration of the environment, illustrating this influence by the facts relating to deaths from suffocation in infancy.

In 1913 in England and Wales, 35,765 women were convicted for drunkenness. In the same year 1,226 infants died from suffocation. In 1914, 37,311 women were convicted of drunkenness and 1,233 infants died from suffocation. That was at the beginning of the war. The largest number of these deaths of infants occurred on Saturday nights. "Under the operations of Lord D'Abernon's policy of liquor control, there has been brought about in this country (England) an enormous reduction of drunkenness and the conviction of women for drunkenness shows a fall of not less than eighty per cent. as compared with the pre-war standard of 1913, and co-incident with this decrease of drunkenness the deaths of infants from suffocation fell from 1,266 in 1913 to 557 in 1918."

When one of these English investigators came

to the United States, he asked in Washington, "How many deaths of infants from 'over-laying' are there?" and he was told there were not any in the United States. On his return to England he told the Birth Rate Commission that such a thing as "over-laying" did not appear in Canada nor the United States. He says, "I could not get any record of it." "Did 'over-laying' appear in America before prohibition?" and his answer was, "I believe it was quite independent of the prohibition era. It would seem that their women never were drunkards. I was taken to some of what are called typically very bad saloons in Chicago, and I saw no women in any instance either inside the bar or in front." This is the testimony of Dr. C. W. Saleeby.

I need not call your attention to the well-known fact that the housing conditions in parts of England are deplorable. No such social conditions exist to any appreciable extent in the United States. Nowhere in the world are the inhabitants of a country so well supplied with creature comforts as the inhabitants of United States. They are better clothed, they are better housed, they are better paid than in any other country, and their opportunities for pleasure and entertainment cannot be surpassed by other countries.

The present so-called International List of the Causes of Death was not adopted in Massachusetts until 1901, and some years elapsed before it was possible to tabulate reasonably accurately under the classification. The classification was revised in 1910 and again in 1920.

Quotation from a report of a Committee on Maternal and Infant Welfare of the Massachusetts Medical Society of October 5, 1921:

Instructions to state puerperal conditions did not appear on death certificates until 1910.

The following causes of deaths of women of child-bearing age were copied from the records from one town from 1901 to 1904, none of which would be accepted today without inquiry as to whether or not they were puerperal. These causes of death have been verified by the Secretary of State of Massachusetts:

1. Septicemia. Heart exhaustion.
2. Acute Nephritis.
3. Septic Peritonitis. Acute Salpingitis.
4. Convulsions. Internal Hemorrhage.
5. Acute Nephritis.
6. Peritonitis. Septic Uterus.

A record of a still-birth a few days earlier

shows conclusively that the death No. 5 of acute nephritis was really of puerperal complication. How many of the other deaths were really puerperal can not, of course, be determined.

In examination of the death returns for 1901 of a few towns, the following causes of death among women of child-bearing age were discovered:

Convulsions,  
Exhaustion,  
Nephritis—Uraemic Convulsions,  
Internal Hemorrhage,  
Cardiac Paralysis,  
Pyæmia,  
Cardiac Asthenia,  
Pulmonary Thrombus,  
Uraemia,  
Peritonitis—Pleurisy.

Any or all of these today after the customary investigation might be classified under the Puerperal State, whereas at that time they were accepted without investigation and none were tabulated as puerperal.

I will quote some more of the conclusions of the Massachusetts Committee:

1. There have been many and varied improvements in the practice of obstetrics and therefore many causes for a real diminution in maternal mortality.

2. No adequate cause or causes appear for poorer obstetrics and therefore no adequate causes for a doubling of maternal mortality in so short a period.

3. There is far greater accuracy and detail in the collecting and tabulating of the official State Mortality Statistics and we believe herein lies adequate explanation for the statistical rather than the actual increase in mortality.

4. That causes of death continue to be reported more and more accurately and in greater detail, and it will be several years at least before statistics become sufficiently stabilized to allow intelligent conclusions without multitudinous explanations of probable errors.

5. The undersigned regret the readiness with which medical writers all over the country have been willing to concede inferiority of obstetrics in the United States merely because of foreign statistics gathered under unknown conditions.

6. We believe the medical profession, in the interests of truth and its own good name, should give the public the facts in regard to this use of statistics.

We warn the profession in closing to take to heart this advice quoted from the Official Manual, namely, "The International List of the Causes of Death" makes no pretension of being a proper nomenclature of diseases or of including a scientific classification of diseases.

When asked for a reason for the increase in the maternal mortality, the State Department of Health, among other things, said:

The chief causes for this deplorable condition are ignorance (among the rich and poor) and poverty.—At any rate, we can fairly say this: Some unfavorable factor is entering into the practice of obstetrics and affecting it at a rate which has not been overcome by the recognized improvement in medical education and practice.—May I repeat that the Department of Public Health has no indubitable proof that this, that, or the next cause is the dominant factor in the maternal mortality of Massachusetts.

So we must conclude that even the State Departments of Health are in ignorance of the apparent rise in maternal mortality. But it is a thing that some of our friends in the Congress of the United States think they can remedy by legislation.

Is the operation of Cesarean section a reason for the increase in maternal mortality? In looking over the rates from Massachusetts for October, 1921, outside of Boston, of the 27 deaths in the puerperal state returned, 6 were due to cesarean section or its complications, which gives us a percentage of 22 for cesarean section among all other causes. In December of 1921, out of 25 deaths returned, 4 were due to cesarean section. Far be it from me to condemn cesarean section when proper conditions demand it, but it will make no difference in regard to the operation even when it is done well, and in the hands of skillful men; there will always be more or less mortality.

But even when the operation of Cesarean section is done by the most skillful surgeon and for just cause, there will be more or less maternal mortality. In other words, the operation of Cesarean section is not the absolutely safe operation that some surgeons would have us believe. It presents risks that every major abdominal operation contains. Contrast for a moment the surgical conditions of today and the surgical conditions in those years before the operation of Cesarean section was so common.

In cases of deformed pelves in the olden days, the child, if delivered through natural channels, invariably died during the difficult process. Today, the surgical risk is almost wholly assumed by the mother. Not that there is a choice between the mother and child, for if the child is alive at the time of operation, it will be born alive. But the mother, who is the patient, assumes, as every patient does who undergoes a major operation, the surgical risk.

So that I think the matter of maternal mortal-

ity in Cesarean sections deserves the profound attention of the medical profession. Taking the so-called maternal statistics of the United States as a basis for propaganda, various groups of people have demanded legislation as a means by which maternal mortality may be reduced, hence the Sheppard-Towner Law, and what is essentially a private medical problem has been made a governmental public problem. The conditions in the United States have been compared by the proponents with conditions in foreign countries. The proponents have used Italy, Russia, and England as examples of countries with low maternal death rates. As to Russia, no trustworthy statistics have come out of Russia since 1915. As to Italy, there is no available information as to how their statistics are collected. But we do know something about England and Wales to which I have alluded above. But there is one point upon which the proponents of this so-called legislation are silent.

Not one of these proponents has given any credit to the cities and states of the United States which show low maternal death rates. These death rates can be found in the Census Report of 1919 in which it appears that Wisconsin, Connecticut and New York had lower rates than England and Wales, and Kentucky had a equal rate with England and Wales for 1919, to say nothing of the low maternal death rates in cities of over 100,000 like Fall River and New Haven.

To the American investigators, the fact is borne in that the question is not a national one, but a local medical problem which can be solved best by local agencies working through local medical organizations who are entirely acquainted with the local medical and social conditions of their respective localities.

Before a congressional committee great stress was made of the work done in New York City in reducing maternal and infant mortality. No doubt good work has been done by New York City, but what are the conditions? It was suspected that the work on the hygiene of maternity and infant welfare in New York City was for the most part done among the foreign born women of New York and therefore was not a fair test. To substantiate this opinion I will quote to

you from the *American Labor Legislation Review* of March, 1921, wherein speaking of the need for protecting maternity and infancy, Jacob Sobel, M. D., Assistant Director of the Bureau of Child Hygiene, a strong advocate of the Sheppard-Towner act, New York City Department of Health, makes this remarkable statement:

Another suggestion I would make grows out of what appears to be a certain mis-direction of effort in combating infant mortality from congenital diseases. I refer especially to the fact that most of the intensive studies of pre-natal care have been conducted among the Jewish and Italian population. Numerous studies carried on by the departments of health of the city and state of New York have shown that the infant death rate from congenital diseases is lower among the infants born of Russian, Austro-Hungarian (mostly Jewish) and Italian mothers than among the infants born of mothers of other nationalities, including native mothers.

After a careful study of the Sheppard-Towner Law, I came to the conclusion that if the law was carried out, it would lead to the compulsory registration of pregnant women. Here and there in the writings of the advocates of the Sheppard-Towner Act, there are statements and intimations that all women who accept the provisions of the law will be cardcatalogued and their puerperal history, whatever it may be, will be recorded in the state archives. So that what was supposed among American women to be the most private and most sacred thing, namely, the cycle of maternity, will under the law be a public matter. To most Americans this is abhorrent.

That this is so, I will allow my readers to judge from the following quotation from Dr. Sobel's article in the *American Labor Legislation Review* of March, 1921, wherein he says:

Then there is need for more education of the public in the voluntary registration of pregnancy. And more education should be given to instructing the father, helping him to understand his responsibilities in the protection of health and life of his wife and baby beyond the mere payment for medical and nursing services. Along with this should go compulsory instruction of expectant mothers on pre-natal care—all persons and institutions engaged for the delivery of women being required to furnish directions, either printed or approved by the state or local department of health, on how to safeguard their health during pregnancy. Along this line the state of New York has made a step forward in mailing to all registered newly married couples a circular on pre-natal care.

24 Central St.



# THE VALUE OF PYELOGRAPHY BEFORE UNDERTAKING SURGICAL MEASURES FOR THE RELIEF OF THE MORE OBSCURE TYPES OF ABDOMINAL PAIN

VINCENT J. O'CONOR, M. D.  
CHICAGO

In presenting this series of cases I wish to emphasize to the general diagnostician the value of resorting to routine urological study for the completion of an accurate diagnosis in the more obscure abdominal and pelvic disorders.

It is needless to state that individuals with pronounced urinary symptoms such as frequency, dysuria, hematuria or pyuria will demand a careful investigation of the urinary organs. On the

The age of these patients ranged from seven-teen to forty-two years.

Twenty-two were women and six were men.

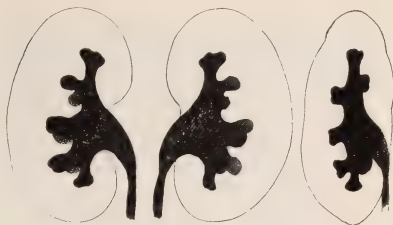


Fig. 2. Outline of renal pelvis as seen in flat plate when injected. The minor calices are shown in contrast to demonstrate the over-lapping effect. On the right is shown the outline of the kidney when rotated.

Of the women six were, or had been married. Twelve of them were between seventeen and twenty-five years of age.

Symptoms: All of the twenty-eight had some type of abdominal pain or discomfort.

Location: Twelve had right upper abdominal

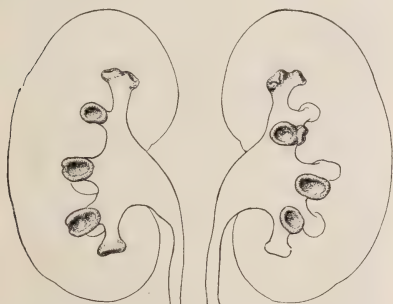


Fig. 1. Schematic outline of renal pelvis and calices. Cupping and position of the minor calix outlines are shown in black.

other hand, many patients in whom lesions of the urinary tract exist have no typical symptoms referable to the functions of these organs. Not only are symptoms suggesting urinary disease absent but in this class of cases the urine is frequently normal both chemically and microscopically.

To demonstrate that this type of diagnostic problem is not an unusual one I have selected for discussion twenty-eight hospital cases encountered in the past eighteen months at the Washington Boulevard Hospital.

All of these individuals were referred for urological study because the chronicity of the complaint or the obscurity of the trouble seemed to demand a most thorough investigation. The urological study, therefore, was only a procedure in the routine method of diagnosis.

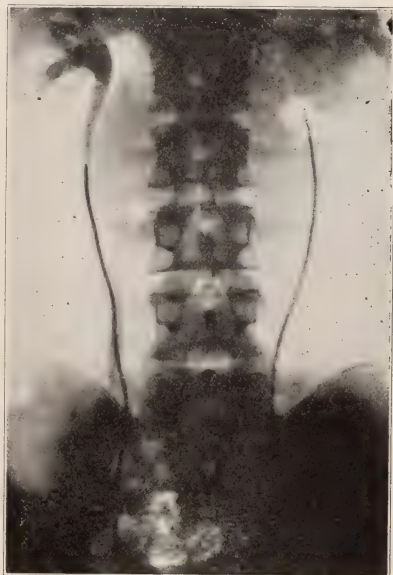


Fig. 3. Normal right uretero-pyelogram.

pain without radiation into the lumbar region or groin.

Eight had pain or discomfort in the right upper abdomen associated with intermittent or



Fig. 4. Normal left uretero-pyelogram.

constant pain in the region of the right groin or pelvic region.

Four of these eight complained of some discomfort in the right flank, but laid more emphasis upon the abdominal localization.

Four had pain solely in the right lower abdomen without reference to the upper quadrant or flank.

Two of these four had occasional radiation of the pain into the right groin.

Two had pain constantly in the left upper or mid-abdominal regions without radiation to the groin or flank.

Two had pain more or less generalized over the mid-abdominal region with intermittent radiation to the left lower abdomen or pelvic region.

*Association of Pain:* In none was there any association of pain with the act or time of urination.

Three stated that there was a definite relief following defecation. In four others constipation was said to aggravate the intensity of the pain.

Nausea and "gas pains" were associated indefinitely with the pain in six instances.

In three a distinct sensation of chilliness without pain was complained of.

Two complained of pain from one to three hours after eating.

In one case the pain was accentuated upon exertion and there was a definite weakness of the limbs at this time.

*Palpable Masses:* In nine instances a mass sug-



Fig. 5. Stricture of the left ureter. Early signs of blunting of minor calices as result of back pressure. Picture made after repeated ureteral dilations.

gestive of the right kidney was palpable. Two of these masses were larger than a normal right kidney and in seven of the nine the range of mobility was from the sternal border above to below the right iliac crest.

*Urinalysis:* Twenty of the twenty-eight cases were recorded as having a normal urinalysis on

one or repeated examinations. Six had record of from one to three pus cells per high power field. Three had nucleo-albumin present and one numerous hyaline casts and epithelial cells.

*Previous operations:* Twenty-one of the pa-



Fig. 6. Dilatation of ureter above left ureterovesical cyst. Picture made after destruction of obstructing cyst wall.

tients had been operated upon before coming under the present hospital observation. In no instance had the operation relieved the complaint. Twelve had had one abdominal operation only; six had two abdominal operations; two had four and one five major operations.

*Character of operations.*

Appendectomy alone—6 cases.

Appendectomy and salpingectomy—8 cases.

Appendectomy, salpingectomy and uterine suspension—5 cases.

Cholecystectomy and appendectomy—3 cases.

Salpingectomy and uterine suspension—4 cases.

Exploratory laparotomy with "release of adhesions"—3 cases.

*Cystoscopic data:* In all but five cases the bladder appeared normal. In two there was a

definite edema surrounding one ureteral orifice associated with a hyperemia of the trigone. In two cases the trigone was markedly raised and edematous. In one case the left ureteral orifice was obscured by a cystic protusion of the left ureter into the bladder. This cystic area was about 3 cm. in diameter. It was necessary to destroy this cyst by fulguration with the Oudin current before the ureter could be explored.

In three cases it was necessary to repeatedly dilate the ureters with bougies before a No. 5 F. catheter could be passed.

*Urological Diagnoses:*

Hydronephrosis—8 cases.

Hydronephrosis, Ureteral stricture and Renal



Fig. 7. Shadows in right renal region diagnosed as gall stones. Ureteral catheter in place after passing ureteral stricture.

Calculi—1 case.

Ptoses of the kidney with angulation of the ureter—14 cases.

Ureteral stricture without evidence of long standing back pressure—2 cases.

Ureteral calculus—2 cases.

Uretero-vesical cyst with dilation of the Ureter  
—1 case.

*Treatment:* Of the nine cases of hydronephro-



Fig. 8. Same patient as Plate 7. Injection of ureter showing hydro-uretero-nephrosis and identification of the shadows as renal calculi.

sis, five were nephrectomized with subsequent complete relief.

Four refused operation or were lost sight of.

Two cases of ptosis were relieved by nephropexy, the remainder being entirely or partially relieved by elastic belts and increase in obesity. Undoubtedly several of these will eventually demand a suspension of the kidney to obtain complete relief.

Both cases of ureteral stricture were completely relieved by repeated dilatation.

Both cases of ureteral stone were relieved by the passage of the calculus after intra-vesical manipulation.

The uretero-vesical cyst was destroyed by the Oudin spark and the patency of the ureter maintained by subsequent dilatation with bougies.

#### CONCLUSIONS

1. In Hydronephrosis the appendix is frequently sacrificed before the renal lesion is discovered.

2. Extreme range of renal mobility is frequently the cause of right sided pain in adolescent females.

3. A careful roentgenological and urological examination may establish the correct diagnosis in cases of obscure abdominal or pelvic pain or discomfort.

4. Lesions of the upper urinary tract frequently exist without subjective or objective symptoms referable to the urinary tract. Ure-

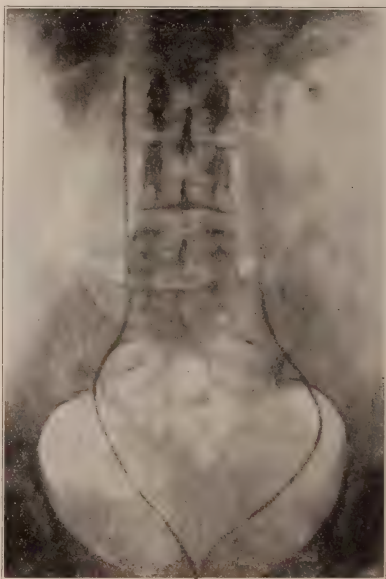


Fig. 9. Right hydronephrosis. Three operations failed to relieve right-sided pain. Right nephrectomy with complete relief.

tero-Pyelography is frequently the only method by which an accurate diagnosis can be made. In cases where a suspected nephroptosis or angulation of the ureter is suspected, this must be done with the patient both in the prone and erect positions.

5. Too much unnecessary surgery is being



done by not considering the possibilities of renal or ureteral pathology when making a definite



Fig. 10. Right nephroptosis with angulation of the ureter. Right nephropexy with complete relief of symptoms.

diagnosis of the causes of abdominal or pelvic pain.

30 North Michigan Ave.

#### LEGISLATION AND ITS EFFECT ON THE MEDICAL PROFESSION\*.

J. R. NEAL, M. D.,

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SPRINGFIELD, ILL.

A paper on medical legislation might properly begin with an apology for interspersing it with a scientific program, but as court decisions are in many instances characterizing the Medical Profession as a scientific "business" it is not amiss to be on guard relative to "business" matters.

It is not surprising to see the optimistic apathy with which a majority of the medical profession view legislative matters, probably due to the fact

that the relative few that are active in keeping the "incompetent" from practicing medicine have, up to the present time, been more or less successful here in Illinois.

We are rather more content to read in our medical journal the result of the medico legislative matters than are we as county societies to be up and doing our best to guard the public health from the quack. It is quite unnecessary to inform you that consistent co-operation is woefully lacking in many districts.

During the recent legislature when the grain market bills were being considered over three thousand farmers came to Springfield to lobby and endeavored to pass the measure in which they were interested. Whenever matters pertaining to education are being considered hundreds of teachers flock to the state capitol and so on; I wonder if an appeal for a medical lobby was issued what response we could expect? We, I fear, would be disappointed judging from the lack of help evidenced by many medical men.

Through the efforts of the councilors of your State Medical Society, at a great personal sacrifice, they were potent factors in defeating nearly forty bills in the recent Legislature that had a bearing on the Medical Practice Act. Many of these bills were innocuous, some impossible, but several vicious in the extreme. It is no secret that the chiropractor has a well organized, national campaign with sufficient funds to enable them to permeate the legislation of the several states with an insidious propaganda tremendous in its scope, endeavoring to get recognition beyond their qualifications.

The legislative committee of the State Society was in touch with the legislative situation of many states during the last winter and it is alarming to note the laws favorable to the "charlatan" that are being enacted. This is not wholly to be laid at the door of the legislator for he has been influenced and won by the champion of low standards of education mainly on account of the medical man's lethargy. In many instances during the last session of the legislature have reports been received by your legislative committee that a certain representative would oppose a certain vicious measure, and upon being interviewed at Springfield we found that he had decided that the proponents for certain vicious bills were correct and the medical man was wrong—his deci-

\*Read before Southern Illinois Medical Association, at Belleville, Nov. 3-4, 1921.

sion being made only after the opponent to high medical standards had informed him thoroughly relative to the subject, and in tracing back we find that the physician in the district from whence the legislator came had merely told him the bill was a bad one and asked him to vote against it,—or in other words the doctor that had interviewed the representative or senator in his home town did not concern himself sufficiently with the importance of his task to seek all available information relative to the bill that was being considered, and merely relied on the intimate friendship that existed between the law maker and himself to carry the day; this is a most grievous error and frequently the vilest kind of laws are enacted, not on account of the legislator being in favor of them but rather on account of our tardiness in presenting the case to him sufficiently early for him to have some time to consider the matter. Medical men in many states are obsessed with this "sleeping sickness" from a legislative standpoint.

In the State of Wisconsin during the last Legislature on account of the propaganda of the quacks a prominent physician identified with the committee said: "We have about reached the point in Wisconsin where we are going to let the people have all the quacks they want." This of course would be a dangerous precedent and undoubtedly advocated because of the lack of proper organization against such evils by the medical profession.

Most of the various "pseudo scientific" cults (and there are more than the proverbial fifty-seven varieties) attempted to have laws enacted giving them separate boards for examination. The osteopath, the chiropractor and the mechanotherapist endeavored to have such passed in the last general assembly of the State.

Arkansas has such a condition of affairs that this is what a distinguished physician of their state said: "The constant influx of incompetent practitioners is made possible by our cumbersome, ill-advised and dangerous multiplicity of examining boards. We receive with open arms graduates from alleged medical schools who are not recognized nor allowed to practice in the very State from which they graduate. For the protection of the public the only remedy is a law requiring a *uniform educational standard* for all kinds and classes of doctors who expect to be al-

lowed to treat the sick. All should be required to pass the same examination in all fundamental sciences upon which the treatment of diseases must depend, leaving out the therapeutics of the various schools of medicine."

It may not seem believable but nevertheless the melancholy fact must be admitted that the profession that is devoted to the relief and care of human ailments is the only one that will permit men without technical knowledge to ply their vocation with impunity. It is not conceivable that a man whose training was a six months' correspondence course would be put in charge of a locomotive. It is equally inconceivable that a man with a few weeks' reading in the laws would be admitted to the bar and entrusted with cases that might involve large financial interest. We do not believe therefore that the matter of protecting the public health should have any less preliminary requirements, and that to have a low medical standard and be permitted by the Commonwealth to hold himself out as competent to treat the most complex piece of mechanism known,—the human body,—is certainly unwarranted and uncalled for.

Shortly after the adjournment of the fifty-second general assembly the Supreme Court of Illinois, reversing the findings of the lower courts relative to the Medical Practice Act, declared the Act of 1917 under which we were operating to be unconstitutional. This, of course, calls for a remedy at the next Legislature. Shall we advocate and support a law for higher educational requirements that will adequately protect the people of Illinois? Your answer is obviously "yes." Then how can it be accomplished? Shall we depend on a large medical lobby at Springfield? No, there is an easier and better plan; next spring new representatives are to be chosen in every district in the State and senators in many of them. The candidates for these honors should be interviewed relative to decent medical standards, assuring them it is not a fight primarily affecting the doctors but an effort to protect the people from the incompetent practitioner. That this is not a physician's fight against any cult but if they want to heal the sick let them know the human body and spend the same number hours in study as the physician,—then they can practice any method of healing that they so desire.

In the recent decision of the Supreme Court

of Ohio, in upholding the constitutionality of the Medical Practice Act of that State, it says: "Sick people sometimes grow desperate in their search for a cure, or their judgment becomes weakened, so that they fall an easy prey to the ingenious and varied devices of the pretended healer. We know that some people are prone to give more weight to a skillfully worded advertisement than to the advice of a competent physician." Further it says: "But obviously, as to these two major essentials of professional equipment,—the state should set its standards high, so as to abundantly protect the public from the mistakes of ignorance, however well intentioned, from charlatanism, from professional quackery, however garbed in alluring advertisements, and from all those who would prostitute their profession to a profiteering basis."

It is indeed unfortunate in matters concerning physicians that in many instances we are only aroused when we are individually wounded. This, of course, is a most selfish attitude and only on a par with the soldier that in the heat of the battle laid down his gun and refused to fight with the explanation that his bullet wouldn't win the war.

Public health is the very heart of public happiness. The constitutional guarantees of life, liberty, and the pursuit of happiness are of little avail, unless there be clearly implied therefrom the further guarantee of safeguarding the public health, in order that life, liberty and the pursuit of happiness shall be made practical and plenary.

### THE DOSE OF RADIUM\*

HEBER ROBERTS, M. D.,†

BELLEVILLE, ILLINOIS

The dose of radium is simply that dose which will produce the result desired by the radioist. This is likened to the dose of any medicament. It is quite certain the exact dose will never be foreknown.

One doctor gives 20 grains of quinine in one dose, another prefers 5 grains, and the patients generally survive. One doctor will use 100 mgr. of radium and another 5 mgr., and the patients recover. Each of these medicaments is prescribed rather empirically.

I saw Dr. Danlos of Paris, France, in 1903, treat a rodent ulcer with an unfiltered glass tube

containing 2 centigrams of radium bromid of 100,000 activity (about 6 mgd. radium element). In the same year Dr. Lyster, in the Middlesex Hospital, London, was successfully treating rodent ulcers with finely powdered pitchblende from the mines of Joachimsthal, Bohemia. This pitchblende was mechanically obtained from uranium oxid ores.

In 1904 I used radium with a lower radium element content than that used by Dr. Danlos. My series of articles entitled "Radium in Surgery" were published in the March and April (1904) issues of the *Journal of Surgery and Gynecology*. The editor, Dr. Lanphere, added a footnote as follows: "Three cases of inoperable cancer which I have seen are showing remarkable improvement under Dr. Roberts' treatment with radium. One of the bladder has been entirely relieved of pain, has gained in weight; one of the uterus has had cessation of pain and hemorrhage, with improved general condition; and one with retroperitoneal carcinoma following excision of the cecum has been attended with reduction from the size of a large orange to that of a small lemon, with a gain of 15 pounds in weight."

These cases were treated in January, February and March, 1904. The radium element used did not exceed 20 mgr., but the exposure exceeded 2,000 mgr. hours. This was the first time radium was ever used in this class of cases.

This practice represented pretty well the dose of radium at that time and for some time after. Then came another dose rather characteristic in our profession; which was believed to be a *coup de grace*. The following is self-explanatory:

As early as 1910 there were fifty physicians in the United States using radium. Radium was not, however, considered at that time on account of its element content, and there was much uncertainty as to its activity, and yet the success that followed its use was so encouraging that more than seven hundred doctors have joined the cult of radium therapist since 1910. These converts were made in the face of the baneful influence of didactic gladiators, posing in transcendentalism—surpassing others; soused in egoism. Milton described Satan: "He above the rest, in shape and form, proudly eminent, stands like a tower." Most of these "supermen" were professors in surgery, and supinely played the harp

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†Author died May 1, 1922.



string which Simmons tuned for them in the *Journal of the A. M. A.*

The first two books written on the subject of radium, one by myself entitled "Practical Radium," 1909; the other by Wickham and Degrais, Paris, 1910, entitled "Radium Therapy," were severely criticised by the Simonized journal. These are the reviewers' concluding words: "The profession is tired of this stuff, and it is hoped there will be no more of it." We were not in the wilderness—we were in the haven; we had braced the storms with measureless dose, and the voice of the afflicted was heard in approval. Later on came Rodman, now passed, traveling with the actuary of a life insurance company (Hoffman) for support, who would throw himself across the stage shouting, "Away with the humbuggery," with Charley Mayo on the same stage voicing the cry of the trio, "It never cured cancer." This was as late as 1914, and the same year the Simonized "caballing" made Rodman president of the American Medical Association. The president died, and with him hate of radium vanished.

Now the supermen with their grandiose style are transfixed, and their apostacy is complete. Like Saul of Tarsus, they are thoroughly converted. We congratulate and felicitate them in their successful tumble.

The foregoing may appear irrelevant, but it is bearing close to the dose of radium.

Dr. Allen Pusey, emeritus professor of dermatology in the Northwestern University, was a pioneer in the use of x-rays and radium. Three years ago I asked Dr. Pusey if he had made any change in his method of raying. "No," he said, "for the cases I treat I see no reason to change my technic."

There is a similarity between the roentgen ray and the gamma ray, but they are not the same. In one particular they are no more alike than the red rays are like the violet. I refer to the wave length and frequency. It is the short wave of the gamma ray that gives it the advantage in penetration. The shorter the wave the greater are the interspaces in matter relatively.

Professor Leonard B. Loeb has shown in the *Journal of Radiology* (July, 1921) that the ionizing power of the gamma rays from 100 mgr. of radium element and the ionizing power of roentgen rays from a Coolege tube is about equal when taken in a unit volume of tissue treated. Charles

E. Viol says an x-ray tube, to discharge rays equivalent to 1 gram of radium, would require a spark gap of 20 feet. G. Contremoulins, Paris, has obtained correct radiographs 262 feet from the x-ray machine, and this was done with a seven-inch spark and two milliamperes of current.

All apparatus thus far contrived for measuring these wide variations of radiance at the therapeutic end is a failure. Ionization is the ray effect, and the number of rays absorbed determine the number of ions. This is the nature of the dose. Reaction occurs in the cells where the rays are absorbed.

The dose of radium is now put forth with the claim of great exactness; but it is theoretical. The emanation needle is held high as the necessary practice. The late Janeway extolled its worth over the plaque for simple mucocutaneous cancers. Others have rushed to the front vaunting the superior virtue of the emanation. The fact is the emanation needle is a dying product hour by hour. It is impractical, for experience has shown in actual practice that radium must rather increase in radiance than diminish. Diminishing dosage begets tolerance in malignant cells. Tolerance means stimulation and cell proliferation. At first the emanation is very destructive. A film is formed about the needle, which becomes a foreign substance in any tissue. This acts harmfully, 1, by adding a filtering crust, and 2, by leaving an irritating foreign substance.

The medical superintendent of the London Radium Institute, Mr. Hayward Pinch, says: "The emanation has no advantage over radium." My card index reveals that nearly all physicians writing about the superiority of the emanation are those who have recently come into the fold of radioist, and their ability as advocates surpasses their clinical knowledge. I am in complete accord with those using the emanation needle in deep therapy. Twenty-five thousand dollars to \$50,000 is needed for an up-to-date emanation outfit. With \$600 one can buy a plaque of 6 mgr., that will do the lighter work; and a \$1,200 plaque is sufficient for most surface diseases—rodents, epitheliomas, angiomas, mucocutaneous cancers, leukoplakia. Emanation needles should not be used in any of these cases. The dose is represented in these 6 and 12 mgr. radium ele-



ment plaques, and the manner of using the plaque is the measure of the dose.

Who would dare use an emanation needle in an angioma, or put an emanation needle in a parotid gland with the certainty of causing an intractable salivary ulcer, or a submaxillary or a tuberculous gland?

No one has been able to apply a fixed therapeutic theory successfully to pathology. If this were true one could insure human flesh. Who insures his case? Radium is not a cureall. Diagnosis is usually a hypothesis; so one should not rely too much on the type of disease for the dose.

In every case judgment should be in evidence, and there should be some knowledge of the physics of radium, and also some experience. A doctor should add a little more to his knowledge of tumors and sores; and more about apastic anemia and toxemia as a sequela to radium. Patients have died from disease induced by radiant matter.

In treating internal diseases through the skin, filtration must be secured, and the skin also must be measured in the filtration. One must keep in mind that all rays decrease inversely with the square of the distance. The number of rays can, in a way, be estimated in the body. All rays produce ions, and ions are estimated by the number of rays—somewhat conjectural. We do not know just where all ions are produced—and never will know.

Diseased cells die under a therapeutic dose of radium, while the normal cells activate. Cells are more resistant to the rays when in active nuclear division, but both normal and diseased cells can be arrested in their activity with radium rays. There is no sharp line to determine this picture. The cells in one body do not function just like the cells in another body, and the tissues in the same body differ in their selective action to radium rays.

Sarcomas yield more readily to irradiation than carcinoma; the tunica intima of vessels is affected before the other coats; the thyroid gland is very resistant to raying, but induced fibrosis occurs after long exposures; the seminiferous tubules, and graafian follicles are extremely susceptible, and so is the spleen; enlarged and ulcerated tonsils respond readily, whether engaged direct by soft beta rays or externally by hard

gamma rays; radium rays in an early lenticular opacity will leave the eye in a better condition than an aphakic one; endometritis is preferably treated by radium; normalcy of faulty endocrines has been observed after raying.

In all cases the curative dose is the tolerant one. Radioparency, radiolucency, and radiopacity of bone, cartilage, and tumor, when made identifiable on an x-ray plate, will aid the radiologist in the application of his therapy. Leukopenia is induced by protracted irradiation, and apastic pernicious anemia is our inconstant toil.

Look lightly upon foreign literature when seeking the dose of radium. The Freiberg teaching by Koenig and Friedrich is to use heroic doses, and the Hamburg school, headed by Albers Schonberg, are moderate in their radium therapy. Be fearful in the face of high-handed propaganda, which will again flood this country, and delete it from any source.

Leave it to us, however, my fellows, to work out these problems. Let us not look across the seas for super guidance, but to our practical physicians in these United States.

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#### THORACOSCOPY AND ITS PRACTICAL IMPORTANCE, ESPECIALLY IN SURGERY OF THE CHEST.\*

H. C. JACOBÆUS, M. D.

STOCKHOLM, SWEDEN

For the past ten years I have occupied myself with the endoscopy of the serous cavities, peritoneum and pleurae. At first I was only interested in the diagnostic advantages which could be gained by such a method. In a case of ascites, after taping and replacing by air, I could by endoscopy get a clear and perspicuous picture of the abdominal organs. There was thus no difficulty in the diagnosis of liver cirrhosis, malignant tumor, Pícks disease, liver syphilis, etc. Further in carcinosis and tuberculosis peritonei I could indicate changes characteristic for these diseases. After performing the endoscopy and the laparoscopy to begin with only on patients with ascites I have in recent years to a larger extent also carried out examination on patients without ascites whereby the scope of the method has been considerably widened. I have further combined laparoscopy with simultaneous x-ray

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\*Read before Tri-State District Medical Association, Milwaukee, Wis., Nov. 17, 1921.

examination of the abdominal organs with the air still left in the abdominal cavity. This later according to Long, Weber and others. These methods of examination compliment each other very successfully, especially with regard to the processes of disease in the liver and spleen and the formations of adhesions in the abdominal cavity. It is not yet possible to judge how great a value in practical respects these methods may attain.

Without doubt the predominant interest by these endoscopies centers round the examination of the pleural cavities, the so-called thoracoscopy. With regard to the chest cavity we have, as we know, nothing corresponding to the test laparotomy of the abdominal cavity. Further the thoracoscopy is so simple a method that it can be performed without inconvenience in every exudative pleurisy which is subject to a thoracentesis. The ocular examination of the pleural surfaces is in most cases relatively complete. In cases of s. c. idopathic pleurisy I have also succeeded in most of them in finding distinct tubercular noduli. For the differential diagnosis between tumors and pleurisy of other origin the thoracoscopy is of no small value. After some practice it is at least possible with some certainty to differentiate between tumor metastases and tubercular changes. In doubtful cases one can by test-excision under guidance of the thoracoscope decide the nature of the pleurisy in the special case. Even solid intrathoracic tumors can be observed on thoracoscopy and their relations to neighboring organs, the lung, the thorax wall, etc. can be determined much clearer than by any other method. By this an evident practical use for an intended operation is gained as we will see further on. This is the principal use in major surgery.

The second and from practical point of view most important field for the use of thoracoscopy are the surgical operations which can be performed directly under guidance of this method and which I will now describe. By thoracoscopy in pneumothorax treatment of lung tuberculosis a specially fine picture of existing string or membrane-like adhesions between lung and thorax wall is obtained. This caused me to try to work out a method under guidance of thoracoscopy to remove such adhesions impeding the treatment. It is a well known experience in the pneumo-

thorax treatment of lung tuberculosis that a single string-shaped adhesion which attaches the lung to the thorax wall and thereby prevents a cavity to collapse can cause the failure of the whole treatment. A recently published paper by Gravesen from Prof. Saugmann's sanatorium contains the following tables which prove the injurious result from these adhesions.

1. Cases with complete pneumothorax without adhesions:			
3 to 13 years after being discharged			
Able to work.....	23	70.2%	
Not able to work from tuberculosis.....	1	2.1%	
Died from tuberculosis.....	11	23.4%	
Died from other causes.....	1	2.1%	
Unknown .....	1	2.1%	
Total.....			
37			
2. Cases with complete pneumothorax but with localized, extended adhesions:			
Able to work.....	14	33½%	
Died from tuberculosis.....	28	66½%	
Total.....			
42			
3. Cases with incomplete pneumothorax with larger or smaller extended adhesions:			
Able to work.....	5	11.1%	
Died from tuberculosis.....	39	88.7%	
Died from other causes.....	1	2.2%	
Total.....			
45			

The injurious influence of the adhesions is simply demonstrated by these tables, which also give the impressions of the frequency of these adhesions. I have here no time to enter into the different methods attempted by others to remove such adhesions. I can only say that none of them has had any practical importance.

As on thoracoscopy it was rather easy to observe the above mentioned adhesions the thought was near at hand to cauterize such adhesions by introducing a galvanocautery through another puncture opening under guidance of the thoracoscopy. The first attempts were made in 1913, and since then I have altogether performed 55 such operations of which I will in a shortened form relate 50. The operation was further performed in 19 cases by Saugmann; of these his assistant Gravesen has published 16. Twelve cases have been published by Holmboe and further 20 cases by Skargard et al., 6 by Somme, 6 by Betrup, 3 by Christoffersen, 2 by Dahlstedt. At the present moment certainly far more than 100 operations have been performed. I will demonstrate the detailed technic on the screen. I nearly always introduce the thoracoscope, which is done under local anesthetic, on the back side, a little higher up when the adhesions are at the

lung apex and lower down when they are in the lower part of the pleural cavity.

But of more importance is the place to introduce the galvanocautery. Because in most cases the adhesions are situated upwards and laterally, I have mostly introduced the galvanocautery in the anterior axillary line. I introduce it still higher up in the axillary line for apex adhesions, and for diaphragm adhesions in the lower part of the thorax wall. After having introduced the galvanocautery in the pleural cavity I arrive at the second and most difficult part of the operation, namely the handling of the galvanocautery under guidance of the thoracoscope. It is for this you require most practice. It is neither always quite easy to find the galvanocautery itself, and its directing and applying on the adhesion requires a certain experience. Generally I apply the platinum needle on the narrowest part of the adhesion. In the cases where a cavern in the lung exists just under the attachment of an adhesion I perform the cauterization as near the chest wall as possible. The pain of cauterization may be rather severe, but as a rule the pain is quite moderate, specially in case of small strings or membranes which are easily cauterized in a part of a minute. Thick, firm, sinewy adhesions offer sometimes a very strong resistance and I have now and then worked with them for one or two hours. In cauterization it is of great importance not to have too strong a glow on the galvanocautery, because otherwise a hemorrhage may arise. Only in one of my 55 cases has a hemorrhage of 100-200 ccm. appeared and from other authors who have used the method only one single case is known by me where a really dangerous hemorrhage appeared probably caused by too strong glow, since no death caused by hemorrhage in these more than 100 cases has occurred. It seems to me that we are entitled to consider this complication not to be of such importance that the operation ought to be abandoned in favorable cases. If a slight glow is used the danger ought to be relatively small.

In an epicritic survey of the 50 cases which I published, I will at first consider the complications which ensued a shorter or longer time after the operations. To begin with we have to consider the larger or smaller skin emphysemata, which originate at the puncture openings of the

chest. This complication may cause trouble a few days but disappears then and is of no consideration in the further development. But of greater importance are the pleuritic exudates which develop after the operation. I have in the following table arranged the different possibilities which occurred in my cases.

1. Cases without exudate .....	25
2. Cases with slight exudate .....	15
3. Cases with long-lasting exudate and fever .....	4
4. Cases with long-lasting exudate, accompanied by empyema .....	4
5. Cases with exudate appearing first 1 to 3 months after operation .....	2
Total .....	50

The first group of cases has quite naturally developed very favorably. After a few days fever the patient has had the same temperature as before operation. The same can be said about group 2 where we have a small exudate which does not reach above the pleura cupola. In one or two weeks it has disappeared without a trace. These pleuritis have therefore no influence on the clinical result and one is entitled to say that the operation in four out of five cases had had no unfavorable influence on the clinical course. The third group comprises four cases in which the exudate together with a higher temperature and apparent influence on the general condition has remained during 4-6 weeks. To judge from the whole an ordinary tubercular pleurisy was at hand.

In the fourth group which also comprises four cases the pleurisy, developing after the operation, was at first of a serous nature and thus of the same character as in group 3. A tubercular empyema appeared after one or several months. In these cases the complication has had a very unfortunate influence, in that of these four cases three ended with death after one or two years, without doubt in no small degree caused by the weakened general condition through the chronic empyema. In the last group the condition has been good after the operation, but after a few months an exudate has appeared which in both cases turned to empyema. Both patients however improved so that the prospects for the future are tolerably good. If the cauterization had anything to do with the later appearing pleurisy it is, of course, impossible to decide with certainty. An independent development of the empyema is according to my opinion probable.

In other statistics one finds by Gravesen in two cases empyema and in 4 cases serous pleurisy from his 16 cases. In Holmboe's 12 cases there is one slight pleurisy and one severe acute pleurisy and empyema with mixed infection, from which the patient died after 4-5 days. From above mentioned experiences taken altogether it is seen that the pleuritic exudate and empyema are the most serious complications at this operation. In my cases the total mortality is about 6 per cent. but is not to be attributed to the operation altogether. On the other hand it is evident that this complication nevertheless is not of such importance that the use of the method ought to be excluded from suitable cases.

I will now pass over to the credit side of the method and will in the following tables show the result in my operative cases. I have ranged the results in three groups, according to the position of the adhesions in the chest cavity.

	Number of Cases	Complete or for collapse of the lung sufficient for cauterization	In clinical collapse of the lung with plete good results	Uncom- plete cau- teriza- tion
Jacobaeus—				
a. Apex adhesions.	5	4	4	1
b. Lateral adhe- sions .....	42	32	30	10
c. Diaphragm adhesions ...	3	3	1	..
Total....	50	39	35	11
Holmboe .....	12	7	7	5
Gravesen, Saugman.	16	9	7	7
Total....	78	55	49	23

To begin with we have the apex adhesions. They are mostly short and technically difficult to reach with the galvanocautery. In the cauterization very often pains are felt on account of the proximity to the parietalis. In 4 cases out of 5 the operation has technically succeeded and also a clinically favorable result obtained. The second group, lateral adhesions, comprises the main part of the cases. In 32 of them the operation technically succeeded and in all of them except two also a clinically favorable result was obtained. In these two an empyema with the above mentioned consequences has developed.

In the third group, diaphragm adhesions, the technical difficulties have been that the patient during the progress of the cauterization proper must hold his breath, because otherwise the adhesion otherwise is in constant movement. It is an advantage that in such cases the cauterization is completely painless. In all the cases the operation has technically been successful but only in one case has the clinical result been of value.

The lung has had extensive adhesions in the upper part of the chest which it has not been possible to remove by this method. The aim of the operation has been, in removing the diaphragm adhesions to get a better compression of the lung in the upper part of the chest cavity. This is according to my opinion only possible in exceptional cases.

The total sum of cases with clinically successful result is thus 35. Among the eleven cases in which only incomplete cauterization has taken place I have only in one had a severe protracted pleurisy.

With regard to other authors Holmboe has in 12 cases had 7 clinically successful results. In 16 cases Gravesen had 9 technically successful and of these 7 bacilli-free ones. Two of the incompletely cauterized have taken a change for the worse through empyema and protracted fever. The probable cause seems to be an attempt to extend the indications for operation by burning off rather extensive adhesions. It is thus in no wise unusual to come across cauterizations in several seances, each of a duration of one to two hours. It is evident that the danger of exudate in such cases must be rather great.

If we thus summarize the result of these published 78 cases we find that in 55 of them, that is about  $\frac{3}{4}$  of all, this method has succeeded technically completely to remove the adhesions which prevented the complete collapse of the lung. Naturally the clinical result is not so favorable as only 49, that is  $\frac{2}{3}$  of the total sum have been symptom free. If we now return to the first table the practical result would be that in these cases of adhesions one can improve them in such a degree that the future prospects of health increase from 33 $\frac{1}{3}$ % and 11, 1%, respective to not less than 70, 2%. The mortality index would according to the same table from 66 $\frac{2}{3}$ % and 86, 7%, respective to 23, 4%. Whether this in reality was so in the cases hitherto operated on I cannot say, partly because the time which has elapsed since the operation is too short and partly because patients have been sent to different sanatorias and their further progress has not been under observation. A rapid survey of the facts available now would give less favorable figures, since they point to a death index of between 30-40%, which, however, of course, has nothing to do with the operation



itself. Many factors surely enter into play. The most common appears to have been that the patients were the poorer classes and therefore unable to get proper nursing. The adhesion cases are often more severe than those in which a complete collapse is obtained.

Although it has not succeeded to get so good health percentage as in cases of simple, not complicated, pneumothorax without adhesions, this method ought to have a permanent value in, maybe a limited number, of pneumothorax cases with string or membrane-like adhesions.

I will now give a description of some cases of intrathoracic tumors, where thoracoscopy was employed for the detailed diagnosis of tumors and afterwards in most of the cases an operation was performed with the best results by Dr. Key.

Case 1. A man, 23 years old. The last half year he had sometimes suffered from stitch in the left side and on account of this he was admitted to a hospital. On x-ray examination a very large tumor was found in the pleural cavity quite filling up its posterior part. From the experience of earlier cases pneumothorax was now established. We could at x-ray examination only see the tumor, not its connection to the lung. On thoracoscopy it was seen that the lung was lying rather free from the tumor, only quite slightly attached to the same on the anterior side. Besides the tumor was free upwards and laterally. Operation was recommended to the patient and Dr. Key removed the tumor by operation Oct. 13, 1915. It was performed without insufflation apparatus and succeeded well. The proceedings afterwards were rather difficult but the patient has nevertheless since then been quite well.

Case 2. A man 28 years old. More by accident an intrathoracic tumor was discovered. Pneumothorax was established and it was seen that the tumor was separated from the lung. On thoracoscopy a tumor, the size of a goose egg and with a broad stalk was immediately found in angulus costarum.

Also this tumor was removed by Dr. Key, which was done quite easily. The tumors in both these cases were fibromyomata.

Case 3. A woman, 28 years old. The patient got ill half a year before with cough and symptoms of bronchitis. The respiration over the left lung downwards was weakened, fever set in and further symptoms of exudative pleurisy. By x-rays examination it was discovered that this was caused by a tumor. The exudate was drawn off and replaced by air and thoracoscopy performed, and now a large solid tumor, tolerably free from the lung and the chest wall, was observed. The surface was smooth with several lines and a cysta the size of a bean. The pleural surfaces were a little reddish with here and there greyish white deposits: it was impossible to decide whether they were fibrin or metastases. The exudate was hemorrhagic and the exudate cells were microscopically found to be of an endothe-

lian type, thus pointing to malignant tumor. After rather long consideration we decided on an operation. Dr. Key performed this and it was rather difficult to remove the tumor, owing to the same at one place being attached to the aorta. The patient was very exhausted after the operation but recovered quickly and is now, four years after the operation, in perfect health. As far as I know this is the first time that a tumor with hemorrhagic exudate, with all clinical symptoms of malignity, has been operated on with a lasting good result. The tumor was from a pathological-anatomical point of view very peculiar. The pathologists considered it to be xantosarcoma.

Case 4. Woman 47 years old. This patient, who always before had been healthy, called on the doctor because of pains in the left shoulder and left arm. By x-ray examination a tumor was discovered, which filled up the whole of the plura cupola on the left side. I want to point out that of clinical symptoms not only the ordinary physical ones of the chest but also the Horner symptom complex, that is sympathetic paralysis of the diseased side, could be proved. Pneumothorax was induced, and the lung was seen as an appendix of the tumor and seemed as such to continue downwards. The thoracoscopy confirmed that the tumor was situated intrapulmonary. Thoracotomy was also performed but, as was expected, the tumor was found to be inextirpable because it had grown into the mediastinum.

Case 5. Concerns a woman, 44 years of age, who was admitted to the hospital on account of a slight hemoptysis. On x-ray examination this formation was observed in the left lung. For the rest an exhaustive examination gave a negative result and the conclusion was drawn that this was an isolated disease in the lung, either tumor or tuberculosis, and the thought was directed on tumor diagnosis.

Echinococcus cysts do not exist here. Pneumothorax was induced and thoracoscopy also performed without any other result. Dr. Key removed the tumor which proved to be a solitary tubercle. The diagnostic mistake in this case was, however, fateful as a tubercular pleurisy with tubercular infection of the thorax wall ensued. The patient got worse and died in a short time.

The interest in these cases centers naturally around the use of pneumothorax and thoracoscopy for the local diagnosis of intrathoracic tumors. In cases of pleuritic exudate Brauer in Hamburg has shown that on x-ray examination after the drawing off of the exudate and its replacement by air, more beautiful pictures of existing tumors are obtained than when the exudate remains. The above related cases mark only the further development of this observation since here pneumothorax has been established in cases without exudate which then have been subject to x-ray examination and thoracoscopy. In our

summary Key and I have arrived at the following results:

1. For the diagnosis and localization of pleural and lung tumors, it is of great importance to make an x-ray examination before as well as after the induction of pneumothorax. By making an x-ray examination after the induction of pneumothorax valuable information is obtained, which completes that already obtained by the x-ray examination made before the induction of pneumothorax.

2. By thoracoscopic examination valuable information is obtained for the diagnosis and localization of pleural and lung tumors, which successfully completes the result of x-ray examination.

3. If there is no opportunity of using a pressure difference apparatus, it might be advantageous to induce pneumothorax previous to the operation in the pleural cavity.

4. If pressure difference apparatus be employed, then pneumothorax for the thoracoscopic examination ought to be induced as shortly before the operation as possible, in order that the inflation of the lung after the operation may not be rendered more difficult or impossible.

5. If the lung is inflated after the operation, more favorable conditions for the course of healing are eventually obtained.

#### INTRANASAL INJECTION OF ALCOHOL IN THE TREATMENT OF HYPER- ESTHETIC RHINITIS AND SOME OF THE NASAL NEUROSES\*

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In considering the treatment of any disorder one can approach the subject from several angles. In the case of the neuralgias of the head this approach can be in the form of a direct attack upon the nerves involved, either by injecting them or by a surgical resection. With the vasomotor disturbances of the nose one can approach the subject in a like manner, although it is essential at all times, as it is in neuralgic cases, to give due importance to individual susceptibility or sensitization, causation and differentiation. Knowing the cause and removing it or correcting the patient's susceptibility may be sufficient to relieve

him of his trouble. While this may be done in some cases the difficulties surrounding these methods are much greater than would appear from the many excellent articles that have been published of late years on sensitization and deficient metabolism and the favorable results are far from what the alluring but grossly misleading advertisements from over zealous manufacturers would have one believe.

It is assumed that a searching survey of the nasal chambers in every instance should precede any radical method of treatment. Therefore, shrinking of the tissues and anesthetization to permit inspection with the Holmes electroscope, plus transillumination or rhoentgenograms is good practice. A suppurating cell, hyperplastic sinus, a sharp spur, an ulceration, an adhesion, any of these may enter into the etiology of nasal neuroses. It may require a cutaneous test to differentiate them from true "hay fever."

In my first presentation of this subject, which was in a paper read before the American Academy of Ophthalmology and Otolaryngology in 1907, I proposed a method of treating these disorders by a direct attack upon the intranasal nerves. This work was commenced in 1906 following the suggestion of Schlosser in the treatment of neuralgia and of Killian for anesthetic purpose. I am not aware of this method of treatment having been employed for these neuroses prior to this time. Although, as I just said, it was being used for the relief of painful impressions both local and reflex in character. Since my introduction of this method of treatment I have persistently followed its principles in the greater number of cases of this class. I have also presented several additional papers on the same subject (the Section of Laryngology & Otology, A. M. A., Chicago, June, 1908; *Interstate Medical Journal*, Vol. 17, No. 7, 1910; Reference Hand Book of the Medical Sciences), and have instructed numerous physicians in the technic and who are using the method right along. Any changes from the original in instrumentation, method of approach, selection of cases, results, complications and the like that may have occurred since this work was first presented I will reserve for discussion until the latter part of my paper.

It is a well recognized fact that the great fifth nerve and its intimate connections with the

\*Read before the Chicago Laryngological and Otolological Society, April 3, 1922.

sympathetic and motor nerve systems plays an important role in a variety of disturbances arising as a result of its stimulation or irritation whether this takes place from within or from without. The immense area of its peripheral distribution to the mucous membranes of the nose, throat and eyes subjects it readily to outward influences, such as may act as irritants or excitants that in turn create reflex manifestations that can be grouped into various symptoms complex. It is not necessary to enter into a descriptive recital of the anatomy of the fifth nerve, but sufficient should be said to show how these reflexes may occur. Its sensory root is said to anastomose with all motor nuclei, with the exception of the sixth nerve, coming from the medulla. In addition the fifth nerve receives sympathetic fibers from both the carotid and cavernous plexus, the latter going to the ophthalmic division and its branches and possesses vasomotor function. The sympathetic fibers from the carotid plexus enter into the makeup of the sphenopalatine ganglion (Meckel) as the large deep petrosal nerve. Motor fibers from the facial nerve also enter into this makeup through the large superficial petrosal nerve. These two petrosals, transmitting motor and vasomotor impulses as well as sensory and perhaps secretory impulses, unite under the name of the vidian nerve.

The sensory element of this (Meckel) ganglion is derived from two sphenopalatine nerves branching off from the superior maxillary or second root and with that of the nasal derived from the ophthalmic or first root constitute the sensory source of the nasal membranes. As the different fibers leave the ganglionic area for distribution to the membrane lining the nasal chambers and accessory sinuses they convey all the impulses that go to make up the complexion of the ganglion, namely, sensory, secretomotor, vasodilator, vasoconstrictor and probably trophic. In this way we can account for the tickling and itching sensation in and about the nose, eyes, throat and roof of mouth; the sneezing, the stuffiness, the flow of serum, mucus and lachrymal fluid and the respiratory embarrassment, all the result of stimulation or irritation of these peripheral nerves. I do not think it possible for me to enter into any discussion on the intricate

physiologic activities of this ganglionic area because the subject is so complex and so beset with unsolved problems that much is as yet speculative. Just why after an irritation of these nerves there should follow in one instance pain, in another reflex asthma, in another rhinorrhea, in another the so-called hay fever syndrome is a physiologic-anatomic study that is not within my province at this time, but it nevertheless opens up an immense field for speculation and investigation. One might formulate a law just as Semon did regarding the paralyzing effects of the recurrent laryngeal nerve in which the abductor fibers take precedent to the adductors.

For the purpose of simplifying the understanding of this method of treatment it is usual for me to divide the distribution of the intranasal nerve supply into two main divisions, the anterior and posterior. The anterior division is the nasal nerve, sometimes called ethmoidal. It is one of the three large branches of the ophthalmic root. The other two branches are the frontal and lachrymal. The frontal being the main branch terminates as the supraorbital and supplies the upper eye lid, brow, forehead and temples. The lachrymal supplies the lachrymal gland and the upper lid. The nasal nerve branches off from the ophthalmic root near the sphenoidal fissure. It passes across the upper part of the orbit diagonally forward from the outer to the inner side to pass through the anterior ethmoidal foramen into the ethmoid cells and after giving a branch to the frontal sinus it leaves the ethmoid and enters the cranial cavity at the outer border of the cribriform plate; it then passes forward to a slit at the base of the crista galli which it enters emerging into the anterior-superior angle of the nasal attic chamber about a millimeter or two lateral to the septal articulation. This is the location of election for reaching the nerve intranasally for the purpose of blocking. After it enters the nose a septal and external branch are given off. These branches supply the anterior part of the nasal chamber, also the ala, bridge, tip of nose, brow and forehead. The posterior division are branches arising from the sphenopalatine ganglionic area. Through these various branches the posterior nasal chamber and all accessory sinuses excepting the frontal, are supplied. Filaments are also distributed to orbit,



palate, nasopharynx, mesopharynx, eustachian tube, etc.

One of the reasons why certain patients are afforded only partial or no relief from their nasal neurosis after they have had spurs removed, septum straightened, turbinals cauterized and sinuses irrigated, is because only a few of the many different nerve filaments have been reached by such procedures. It is well enough to correct such gross irregularities if the symptoms are localized, but where the irritation is of wider distribution then in addition or separately the area at the point of nerve entrance into the nose should be blocked. The method of doing this is as follows: For the purpose of injecting the anterior division of the nerve a straight steel needle of about a 22 to 24 gauge and 9 cm. long with a slip joint to securely fit an all glass syringe is used. This fitting has a marker on it indicating the side of the bevel at the other or pointed end. This point should be sharp, but at the same time of short bevel in order to lessen the possibility of fluid escaping. As the point of the needle is only introduced to a depth of about a mm. the bevel should not be any longer than this. After previously preparing the field for injection by shrinking and anesthetizing with a solution of cocaine and adrenalin, the straight needle is fixed to the syringe containing the alcohol in such a manner as to show by the indicator on the slip joint that the bevel point is directed forward, and the instrument so prepared is carried to the foramen by following closely the septal wall until the vault is reached, a distance of about 5 to 5½ cm. from the nasal crest; then the point is carried slightly outward as the slit through which the nerve enters is about 1 to 2 mm. lateral to the septum. If properly placed the point of the needle can be felt entering the opening. No force is necessary. On some occasions I have felt the needle entering the opening for some considerable distance, although this is not necessary or advisable. It is sufficient that the bevel of the point is buried in the foramen so that no fluid escapes into the nostril. The neighboring nostril is injected in like manner. Variations in the depth of the floor of the frontal sinus in only a few rare instances change the location of the foramen sufficiently to warrant more than mentioning. Very high deflections and old fractures offer the greatest obstacle to accuracy. To overcome this I use a

very fine and somewhat flexible needle that will pass around the obstruction. The easiest technic is to hug the septum and follow directly beneath the nasal bone. The external branch of the nasal nerve lies in a groove or at times a tunnel in this bone. This branch is of less importance than the inner one, but both are secured at the orifice of the foramen. The distances are slightly altered by age and types of heads. That is to say in young children a shorter and finer needle should be used. The needle used for injecting the posterior division is 10 cm. long, 16 to 18 gauge, with slip joint and indicator showing the location of the bevel at the point. This point is sharp and of short bevel and bends at about a right angle from its shaft for a distance of about 10 mm. For the very wide nostrils and deeply located fossa a bend of 15 mm. is used and in like manner one of 7 mm. for closely fitting turbinal and septum. After preliminary cocaineization and thorough shrinking of the tissues carry the curved end of the needle to the posterior nostril, hook it gently around the tip of the middle turbinate and at a point where this body arises from the lateral wall will be found the foramen of the sphenomaxillary fossa. Introduction of the needle point into the membrane covering the foramen will reach the nerves emerging therefrom. If the point of the needle is carried three or four millimeters posterior to the first position and then forced laterally through the membrane a more accurate penetration of the ganglion is possible and with less chance of injuring any vessels. A forward projecting sphenoid or pterygoid process may make this difficult as Sluder has pointed out.

In injecting the posterior group of nerves I advise selecting the region of the sphenopalatine foramen as the point of election in which to introduce the curved needle point. It is true that the nerves leaving the sphenomaxillary fossa do not all make their exit at the foramen, only the posterior superior nasal lateralis, that supplies the correspondingly named membrane, and the nasopalatine nerve that supplies the vault and septum. The others leave by other exits to enter canals that lead to all the neighboring parts. But one must not lose sight of what the histology of the gland teaches; namely, that many of the sensory fibers from the second root do not even enter into the complex of the gland structure



but pass directly on to the nasal chamber and adnexa. It is to be remembered that the ganglion usually lies directly against or at least very close to the foramen and can be reached in part at least by proper placement of the needle point. But aside from this an injection at the foramen reaches those nerves supplying that part of the nasal membrane where most of the protein substance is likely to be found. Probably it is necessary in some cases, as Sluder has said, that in order to reach the ganglion itself and thereby effect a desensitization of all functional elements contained in the fossa, the straight needle introduced trans middle turbinal posterior tip be used; but in the type of cases under discussion I believe the curved needle is preferable and fully satisfactory. As a matter of fact my experience has been that only a few of this class of cases require the posterior injection especially where an accurate anterior injection has been negotiated, and provided the treatment is instituted early. When one is satisfied the needle does not accurately enter the desired place another attempt should be made in a few days, or where the benefits are only partial after anterior injection a posterior injection may be added. The relief is usually for the season in hay fever cases. In simple rhinorrhea, spasmodic coryza and nasal reflex asthma, it usually acts instantly.

Alcohol is a most suitable substance for injection because it is sterile, non toxic and non corrosive: It has been used extensively for the purpose of injecting nerve tissue and it records no particular untoward results. Its action on nerve substance is a disorganization of its cell elements causing some hardening but no necrosis. Otto May's investigations on the changes that take place in ganglionic cells and nerve fibers by alcohol (*British Medical Journal*, Aug., 1922) show the nerve fibers to be much easier affected than the cells. The functional activity of the nerve is restored to normal within a variable period as is shown by the necessity for reinjecting each season in the seasonal cases. The more exact the injections are made the more effective and lasting are the results. Infiltration of the membrane in the neighborhood of the foramen is far less effective but one does secure some immunity. Like any similar injection a careful sterilization of instruments and field and a slow introduction of the fluid is essential to best re-

sults. Originally I used absolute alcohol but found this more painful than a 75 per cent dilution with fresh sterile water that I now use. About 10 minims is used for each injection. If the nerve is properly located a sharp pain radiating in the direction of the nerve distribution is immediately experienced on introduction of the fluid. This may last for some time unless anticipated by a previous hypodermic of morphin and atropine. When the procedure is carried out carefully and accurately in otherwise normal individuals there should be no serious or damaging results following. Sometimes a prolonged pain follows the injection, particularly when several areas have been entered or where the alcohol may have entered the cranial cavity and irritated the meninges; but this can be combated with morphin. Where an infiltration results instead of a block a temporary anosmia may follow the anterior injection. Sluder records one instance of abducens paralysis of temporary duration following his posterior method. Serious bleeding has never occurred with me when the curved needle was used. Most of the sufferers are nervous, with little self-control, and often restless.

In such patients the nasal membrane during an attack is exquisitely sensitive, so much so that even psychic impressions are sufficient to excite vasomotor and secretory activity. For this reason it is best to administer morphin and atropine prior to the treatment and a tablet containing a small dose of codein and caffeine at intervals of a few hours following.

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## AN OMENTAL CAP OVER AN ACUTE APPENDIX\*

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This case is presented on account of an unusual pathological feature. It is not at all uncommon to find the omentum wrapped around an acute appendix nor is it a rarity to find an abscess or other pathological exudates covered by the omentum; but a case like this points out an interesting proof of the pathogenesis of the omental graft. That this question needs discus-

\*From the Surgical Clinic of Dr. Carl Beck.

†Read before the North Chicago Hospital Clinical Society.

sion and that every case bearing upon this pathological feature which is observed clinically by competent pathologists, ought to be reported, is certain. Even such a well informed authority as Hetzler in his latest book (writing on this point) says:

Causes of the Migration of the Omentum: So marked is the tendency of the omentum to appear at the site of infection that observers have been enthused into the use of poetic expression thereon: Morrison referred to it as the 'policeman of the abdomen.' This, like most poetic flights, may bear truth without, however, carrying an explanation.

The answer to the question why the omentum seeks the site of infection is not easy. But little has been written on this point worthy of record. Adami complains of the paucity of the literature. Since that date a number of papers have appeared which

tioning the father we were told that the boy had been complaining of abdominal cramps for the past two months. They occurred about two hours after meals—lasted a half hour and then subsided. There was no history of nausea or vomiting. His temperature was 100.8, pulse 140 and his white blood count was 20,000. There was a rigidity of the right rectus muscle and very light palpation made the boy cry out with pain. The next morning he was free from pain, his temperature and pulse were 98.6 and 80 respectively and his white blood count was still 20,000.

3. Operative Findings: On opening the abdomen we found an acute appendix about  $3\frac{1}{2}$  inches in length. There was an area of constriction about an inch from its base and the appendix was twisted on itself at this point. It seemed entirely free from adhesions, but the tip was not visible. We clamped the appendix just above the base in the usual man-

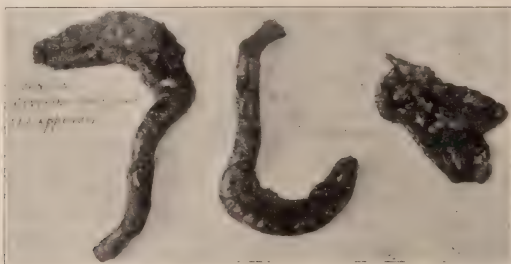


FIG. 1.  
The omentum covering the tip of the appendix like a cap.

FIG. 2.  
Same after the omentum had been removed. Note the pocket-like deviation in the omentum and the gangrenous condition of the distal third of the appendix.

present some speculations on this subject. Fisher (not this writer by the way) believes that peristalsis accounts for the movements of the omentum. When inflammation hampers the movements of the intestine the more actively moving peristalsis in the noninflamed areas moves the omentum toward the affected part. Dickinson ascribes its movement to the pumping action of respiration and to peristalsis. Adami observed that in those bedfast, long the victims of disease, the omenta are often dislodged to the region of the colon or above. Gravity and peristalsis may play a role here, but the conditions are wholly different from those which obtain when there is a movement toward a focus of reaction. My own studies, while suggestive, are inconclusive. The best that can be done is to trace a similarity of it to that of leucocytes. (Hetzler.)

2. History: Master Leo E., aged 9 years, was admitted into the hospital the morning of March 9, 1922. He was suffering from severe abdominal pain localized in the region of McBurney's point. On ques-

ner, thinking that the tip was bound down under the cecum. We then grasped the appendix with another forcep about its middle and lifted it up very lightly and easily, the omentum coming with it. The omentum was wrapped over and around the tip similar to a thimble on the end of a finger. The tip was actually imbedded in the omental tissue and firmly adherent to it. The portion of the omentum was removed with the appendix. We slit open this thimble like portion of the omentum and stripped the appendix from it. The tip was found to be almost gangrenous and covered with a sticky exudate that had acted as a cement binding the omentum to it. The photographs illustrate the appendix covered by the omentum and both after the latter was separated. (See Figures 1 and 2 respectively.)

#### CONCLUSION

The question that arose was: Why should only the tip become involved in this process and why not the whole appendix? Our conclusion

was that the appendix moved towards the omentum rather than vice versa. This is contrary to the views of some investigators but it seemed more plausible to us after careful consideration.

It is claimed by some that the omentum can move about in the abdomen, ascribing that movement to the action of the muscle-fibers in the blood vessels. Others believe peristalsis accounts for the movement, still others trace a similarity of its conduct to that of the polymorphonuclear leucocyte. They say that the vessels of the omentum as well as the vessels of the diseased appendix respond by pouring out a serous and cellular exudate. The meshwork of the omentum thus contains large numbers of leucocytes and these cells responding to some physiochemical stimulation migrate to the diseased appendix carrying with them the omentum. This seems hardly plausible. We know that leucocytes are rushed to a site in response to an injury. We also know that they pass through vessel walls but it seems impossible that they are capable of migrating to some distant area of inflammation and besides carrying with them the omentum.

It is claimed that the muscular structure of the appendix is so rudimentary that its power of contraction is very insignificant; that there is movement in the appendix is demonstrated every day during fluorescent screen observations. Also one may observe that the appendix when freshly cut and placed on the palm of the hand, curls up like a worm and moves about. It seems that the acute process of inflammation excites considerable muscular contraction with accompanying pain. On the surface a plastic exudate is formed which adheres to anything in the neighborhood and if, perchance, the omentum is near the appendix, it draws the omentum around itself like a cap.

Thus we see the pathological fact, the seeking of the inflamed portion to wall itself off and to heal inflammatory changes by adhesions. It would be impossible that the omentum should encircle spontaneously such a structure as the appendix in a spiral way; but it is most certain that the appendix once catching hold of the omentum drew it around its tip in the fashion described.

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## XIPHOIDITIS\*

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CHICAGO

The following case is an illustration of a disease which as far as I know has not been described in any literature.

A man 36 years of age, Jewish nationality, owner of a fruit store, uses tobacco moderately, no alcohol. The patient is constipated. Appetite and sleep are fair. No history of venereal diseases. The present complaints began two years ago. The patient complains of pains in the epigastrium which are sometimes of such a severity, that he is unable to work. They appear also during the night; and before and after meals. Sour food makes the pain worse. There is no belching; the stools never look tar-like. The complaint suggests gastric disturbance, but the patient has been treated during the last two years by many physicians without any relief. Dr. Sippy's diet failed to do any good, other methods of treatment were also without results, which treatment, however, when used in cases of stomach diseases gave good results. An operation has been advised by two physicians, but patient has not submitted.

The physical examination revealed a marked tenderness exactly over the xiphoid process; no other area surrounding this point was sensitive to pressure. This symptom suggested a diagnosis of inflammation of the xiphoid process. The diagnosis was corroborated by a negative result of the examination of the stomach contents and by the fluoroscopic and radiographic examinations. Sodium salicylate was administered, 9 grams to 180 cc. of water, 2 teaspoonsful t. i. d. The patient was not given any special directions as to the diet intentionally. The pains disappeared within a few days, and patient was able to resume his work. There has been no more medicine given since, which was 5 months ago, and he feels well, regardless of the fact that he does not keep to any special diet. He has gained 4 pounds, after having lost 11 pounds before he took the salicylates.

In the last few years I have observed 11 similar cases of inflammation of the xiphoid process. The suitable name would probably be xiphoiditis. All the patients complained of pains

\*Presented at the physicians meeting at the Augustana Hospital, Feb. 5, 1922, and at the Norwegian-American Hospital, Feb. 17, 1922.

in the epigastrium, sometimes before and sometimes after meals. In all the cases the physical examination revealed a tenderness over the xiphoid process. The chemical and radiographic examinations were negative. Six cases have been treated successfully with salicylates; in 5 cases it was necessary to remove the xiphoid process under local anesthesia. The microscopic examination showed evidences of chronic periostitis.

It should not be forgotten that ulcer of the stomach or duodenum, cholecystitis, gallstones, adhesions in the epigastrium and many other pathological conditions frequently cause a tenderness over the xiphoid process, probably because of the irritation of the nerves in this region. The point I wish to emphasize is, that the inflammation of the xiphoid process which is not caused by any of the above mentioned diseases exists, and that it can be cured either by drugs or by the removal of the diseased bone, without any special diet or a laparotomy.

The differential diagnosis can be made by characteristic tenderness over the xiphoid process combined with the negative results of the examination of the organs located in the epigastrium.

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#### WHAT SHALL WE DO TO BE SAVED— PROFESSIONALLY?\*

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EAST ST. LOUIS, ILL.

The traditions of the medical profession establish it as an organization of the highest ideals. It has ever stood for the betterment of the human race. It has encouraged the moral and intellectual qualities, and has constantly pointed out the means by which better health and longer life might be secured. It has never been mercenary, but has given freely of its time and best energies for the relief of the sick and suffering. Its members have sacrificed their hopes and ambitions to secure for their fellowmen freedom from the blight of infectious disease, and numerous instances of a sacrifice of life itself may be cited to sustain the claim of its unselfish devotion to the cause of humanity.

Measured by the standard of the average man, that is, by the measure of dollars and cents, the medical profession is not a success. And yet

who among us would care to exchange our sense of power over the worst enemies of mankind for the mere wealth of the money grabber? I am confident that were the energies of the medical profession, now spent in useful, humanitarian service, diverted into the commercial field, the medical profession would be the richest people on earth. Indeed, it would soon own the earth, and the present millionaires would be the servants, the toilers. The medical profession can well boast the proud distinction of having for ages the greatest minds, and its achievements under the most trying conditions are ample proof of this.

It would not be possible to refer to all that medicine has done for the human race in the short time at my disposal, but a brief reference to some of the more prominent features of this subject may tend to strengthen our faith in the profession, and to give us courage to go ahead along the lines where we hope to produce still better results.

Referring to vaccination as one of the striking means of preventing disease would be unnecessary in this day if it were not for the fact that there are still quite a number of persons in every community who claim to disbelieve in its merits, and who constantly oppose those who know it to be of the highest importance to mankind.

The knowledge of the various bacteria which cause diseases is the gift of the medical profession to the human race, and through this knowledge yellow fever, which once ravaged tropical countries, has been almost entirely eliminated, and we no longer have the epidemics of this disease with the loss of thousands of lives each year. Its visitations are now very rare in the places where it was formerly present, and where its toll of lives was greater than any other one disease during certain seasons. Aside from its actual death rate it incapacitated its hundreds of victims, causing an economic loss of tremendous proportions.

Diphtheria has been rendered almost harmless by the early use of antitoxin, and its toll of human lives amounting to twenty-five to thirty per cent. is now reduced to one or two per cent., and if all cases were recognized at the proper time it is not improbable that there would be no deaths.

Other diseases in which the causative factors are not so clearly established are still to a great

\*Read at the 47th Annual Meeting of the Southern Illinois Medical Association, Belleville, November 4, 1921.



extent under control through isolation of the sick, and were it not for the ignorance of the public of the dangers of contact with diseased persons, it is not too much to believe that the prevention of infectious diseases could be carried to still greater success.

Times are constantly changing and with these changes comes a change in the relationships of the doctor and his patients. It is not so very long ago that there was such a thing as a "family doctor," a physician for all the ills to which his clientele was subject. To him came the old and the young, the married man, and the single man, the maiden and the matron, and his ministrations were all that the family required. He treated the babies and their grandmothers; he was equally skilled in the treatment of colic as in fractures. He was more than all this; he was the mentor to whom all classes applied for advice on anything pertaining to their weal.

But now, how different. And is it better for the people? It is certainly not better for the doctor. Now he is consulted for the more common ailments, but too often when he has made a diagnosis and possesses the skill necessary to treat the patient for the sickness he is not given the opportunity. The patient knows of a "specialist" who handles this sort of cases with the greatest skill, and to him will go the fees which should go to the "family doctor"; and very often the fees are out of all proportion to the pathology for which the treatment is given. This is generally the case when the patient falls into the hands of the "self-made" specialist. When a "specialist" is needed no one is better qualified to suggest the proper one than the family doctor; the one who has probably known the patient from his infancy, and in whose welfare he has a warm personal interest.

But this is not all; not even the worst that can befall the medical profession. Through the indifference, ignorance, or cupidity of the legislatures there has been permitted to fasten itself upon the body of the organized medical profession, and upon a public which can be easily imposed upon, a large class of parasites, and like all parasites they are gradually undermining the public confidence in the doctors and weakening their influence; and all this is at the expense of the public and the medical profession.

Largely at the public expense in life and health as well as finance. It can be very safely stated that for the good the various parasites are doing the evil effects far outweigh them all.

As an illustration of the tenacity with which these leeches can stick to their victims the following is a good example, and was related to me recently by one of the best physicians in the state. He had treated a man on several occasions for sciatic nerve trouble, and had always been able to give him relief after the usual time. One time he had remained free from the disease for nearly a year, and the number of visits to the doctor's office seldom exceeded five or six. A few weeks ago this same man came to the doctor and proudly boasted that he had been free from "sciatic" for over three months; that he had been treated by a "chiropractor" the last time; that he had been treated sixty-five times, and that he had been entirely cured. Who is there in the regular medical profession who could keep any man coming to his office three times a week until sixty-five visits were made? Who is there in the profession who would need to have him come sixty-five times for "sciatic." And this class of "parasites" are licensed to practice their "art" upon a gullible public.

And there seems to be no end to the number of different cults. They are constantly adding new names to the already long list. Some make a pretense of "religious persecution," not tolerated under the constitution.

And to add to the burdens of the medical profession a class of misguided philanthropists (?) are now endeavoring to have our state legislatures pass compulsory health insurance "laws," "maternity bills," and other encroachments upon the domain of medicine.

These measures are not only a menace to the doctors, but are also inimical to the best interest of the public.

And what is the remedy? How can we escape such perils? How can we protect the families of our friends from the quack and pretender? To my mind the answer is ready at hand. Let us consider the 11,000 reputable doctors in the state of Illinois, with 7,000 of these already in the State Medical Society. A doctor who will exert his influence in the families he treats can secure the votes of the majority of those of voting age for any measure he may earnestly

and sincerely approve. Think what this means. It means 150,000 votes going his way.

The State Medical Society is broadening its activities, and now in addition to what it has previously done on legislative matters it is planning to secure efficiency and activity in everything relative to medical legislation.

The necessity for this greater activity has grown constantly in the last few years until now the necessity for greater efficiency is manifest to the least observing of our colleagues.

The steady encroachment of the various cults upon the practice of medicine, taken together with the activities of the Federal Government, the American Red Cross, the Compulsory Health Insurance League, and the State Medical Organizations, all tend to place the medical practitioners in an unenviable position.

If he attempts to antagonize any and all of these encroachments he soon has reason to see that they can very readily dispense with his services; that in every community where a reasonable excuse is found a Health Center or some similar organization is established and a non-resident is placed in charge.

If, on the other hand, he attempts to co-operate with these several organizations he soon finds that it is encroaching upon the rights and privileges of his colleagues, and unless he discontinues the service he loses caste with his fellow practitioners.

Our present program contemplates the campaign for sane legislation; legislation which will protect the public from frauds, ignorant pretenders and fakers, as well as to conserve the interests of the profession.

The average person has but little conception of the tremendous contributions the people now make to the charlatan.

I here use the term "charlatan" as a synonym for any form of quackery as distinguished from the practice of medicine by a qualified physician, and in the class to which it applies you will find the Christian scientist, the magnetic healer, the faith healer, the chiropractor, the osteopath, the naprapath, and several others of the parasitic groups, all of whom are now supported by the general public and indirectly at the expense and often to the discredit of the medical profession.

We have heard a great deal lately about the Sheppard-Towner maternity bill, now in con-

gress, and what would be the consequence if this bill should become a law, be ratified by Illinois and put into effect? One of the measures provided for in this bill will be to appoint an advisory committee which is to be both state and local to assist in carrying out the provisions of the act, and half the members of the committee shall be women.

What effect in your community would this have provided a committee consisting of laymen and under the control of a Federal Board without any supervision whatever by the local medical profession should be appointed? Can any of you doctors realize what it would mean to you to have all the expectant mothers supervised by technical assistants for three months prior to the birth of a child.

Is there anything of a "technical" nature which you cannot fully provide for your patients? How many women are there in your territory who are now suffering, or will in the near future suffer during pregnancy and confinement for lack of medical attention?

The following quotation from a brochure published in the ILLINOIS MEDICAL JOURNAL cannot be disputed: "Maternity legislation is paternalism, communism, sovietism, and all the isms condensed into one."

"It is the entering wedge for all the various forms of compulsory insurance, such as Health, Old Age, Sickness, etc.

"It is the camel's head in the tent, soon to be followed by the rest of the camel.

"It makes the white man the equal of the Indian, a ward of the State.

"The State has as much right to pay one's grocery bill as to pay that under discussion.

"Public spirited women who seek the welfare of our home should consider the following special dispatch to the Fitchburg, Mass., *Sentinel* of December 21, 1920:

"There is danger lest the maternity reform will yet succeed in placing American mothers and their children under departments of governments, where cattle are placed, and in some respects for the same purposes.

"The cattleization of the women of the State is a dreadful thing to contemplate, in view of the failure of the government control of airplane construction, ship building and railroads. An appeal is made to exert all proper influence to

save our homes, mothers and children from coming under the control of bureaucrats at Washington and elsewhere.”

### SOME REMARKS ON PENETRATING INJURIES OF THE EYE BY STEEL PARTICLES\*

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Penetrating injuries of the eye may be divided into two classes, namely, foreign bodies that penetrate the eye and come out again through natural causes, and foreign bodies that enter the eye and stay there. By penetrating wounds I do not mean small foreign bodies that penetrate the outer coats of the eye and may be picked out by a spud or knife or brushed away with cotton tightly wound upon a toothpick. I mean foreign bodies that actually penetrate all of the coats of the eye and enter the interior of the eyeball itself. Do not let it be assumed however, that I seek to minimize the importance of small foreign bodies like cinders, fragments of emery, etc., that lodge in the coats of the eye, because I know full well the serious consequences resulting from such apparently trifling injuries. Such small foreign bodies should be carefully removed under strict aseptic precautions, because all who have had experience have seen cases where the improper and unclean removal, or attempts at removal, of such small foreign bodies has resulted in infection and the loss of an eyeball. Such unfortunate results are usually obtained by some shop workman who obtains an unmerited reputation for the removal of foreign bodies, and who does so with improper instruments and under unclean conditions, to say nothing of improper lighting facilities, etc. Such results are also not infrequently obtained in the manipulation of shop doctors or inexperienced physicians who feel that the accident is so trifling that it is unnecessary to consult a specialist. I am referring in this paper, as I have said before, to foreign bodies that actually perforate the coats of the eye and are either pulled out, or drop out, or are worked out by the movements of the lid, or remain inside of the eyeball.

Foreign bodies coming under the first classifi-

cation are usually long spindling pieces of steel that are sent with force through the air perhaps by the forceful blows of a hammer on a chisel and enter the eyeball either through the lid or directly into the eyeball itself. The lid, of course, is a great protection to the eye, and many an eye is saved from serious damage by the instantaneous closure of the lid upon the approach of danger, but sometimes the foreign body is driven with such force that it passes directly through the lid and into the eyeball itself. If the foreign body is of the long spindling variety it is usually picked out by the patient himself, or by some friend, leaving a hole through the lid and a perforation of the eyeball. Such lid perforations usually take care of themselves with proper treatment, although I have seen lids badly lacerated under conditions of this kind, requiring several sutures and careful manipulations to produce a normal condition of the lid later on, but it sometimes happens that the closure of the lid is not quite quick enough and the foreign body passes directly into the eyeball. It is then sometimes picked out by the injured man himself, or a friend, or a doctor, or is winked away by the action of the lid, leaving a more or less serious condition of the eye behind. Sometimes the eye is badly cut, either in the cornea or sclerotic, or directly through the sclero-corneal juncture. Sometimes the iris is more or less mutilated. Sometimes there is a prolapse of the iris, requiring a greater or less amputation of the iris in order to smooth off the wound and to prevent adhesions between the iris and the cornea or the iris and the lens. Sometimes the lens itself is perforated and a traumatic cataract produced. All of these conditions have to be cared for according to each individual case, but as a rule it is better to allow the eye to quiet down by rest in bed, quietude, soothing and antiseptic treatment—atropin, etc., before resorting to further surgical procedures, unless the iris prolapses through the wound and needs to be gently withdrawn and cut off in order to prevent serious complications. Of course much depends upon the entrance of infection into the eye by means of the foreign body, and it is impossible at the start to look forward and tell what the results are going to be in cases of this kind; iritis may follow, or a detached retina, or a badly swollen lens, all necessitating considerable experience and judg-

\*Read before the Stephenson County Medical Society at Freeport, January 12, 1922.



ment to properly handle it. Later on, as conditions indicate, a larger iridectomy may be necessary, or the removal of the swollen cataractous lens, and of course it is always possible that a removal of the eyeball itself will be the ultimate result. The removal of the cataractous lens is by no means such a simple matter as some may think, because it has been my experience that such lenses are not by any means as semiliquid as some writers would seem to indicate, many of these lenses are quite hard and substantial in their character, and are not readily removed by the small incision produced by even a large triangular knife or keratome. As a matter of fact, my experience has led me to almost abandon the keratome knife in such operations and to use a Graefe cataract knife in order to produce a larger incision, because it is always bad policy to try to get a cataract out of an incision that is too small, too much pressure upon the eyeball is thereby produced and vitreous is frequently lost. If, however, it is deemed advisable to use a keratome it should be a large one, and it will frequently be necessary to enlarge the incision by the use of delicate scissors. It must also be remembered that in such traumatic cases the posterior capsule and hyaline membrane are frequently ruptured, thus making it very easy for large amounts of vitreous to escape during the operation. Personally, I believe it much safer in cases of this kind to use Fisher's retractors rather than a speculum, because the retractors lift the lids from the eyeballs and relieve the eye of the pressure so often induced by the arms of a speculum. I also advise very little pressure to be applied to the eyeball by spoons, etc., for fear of loss of vitreous. I evacuate all of the lens substance that I can easily, and then wash out all of the lens substance that I can with my anterior chamber irrigator, gently applied, and, if some particles of lens substance persist in remaining behind, I prefer to leave it rather than to be too energetic in my efforts for fear of encouraging a great loss of vitreous. Most of such lens substance will be absorbed, and we should never forget that in endeavoring to save an eye we should not destroy it by too meddlesome surgery.

We now come to the consideration of foreign bodies that enter the interior of the eye and stay there, and these cases are of course ones where our greatest hope lies in the proper and

judicious use of the electric magnet, in fact in order not to draw out this paper to unreasonable lengths I would take the liberty of confining myself to the consideration of those foreign bodies that perforate the eye and remain inside of the eye, that are magnetic in their character, not forgetting that foreign bodies of various kinds may enter the eye and remain there, such as wood, glass, shot, nonmagnetic iron, etc. Foreign bodies may of course enter the eye through the cornea, through the sclero-corneal juncture, or through the sclerotic, and these facts constitute the important features of this subject. Foreign bodies may of course be of all sizes and shapes. I have seen particles of steel driven into the interior of the eye so small that they almost took a magnifying glass to see them, and I have seen them so large that it was a mystery how the eyeball could conceal them. I have seen them long and short, smooth and rough, and I have never seen any two just alike. Some objects merely pass through the corneal layers and drop into the anterior chamber, some are lodged in the iris, others in the lens, others in the vitreous chamber, some are tightly wedged into the sclera, and some pass clear through the entire eyeball and are lodged in the tissues of the socket back of the eyeball; so you see we have all of these things to take into consideration, and each case must be studied by itself. Of course, when a piece of steel is in the anterior chamber, or iris, or lens, it can be easily seen, but when objects take refuge back of the lens they are frequently not easily discernible even with the ophthalmoscope. If the object is in the anterior chamber an incision through the cornea large enough to permit of its easy escape through the wound on to the magnet may be all that is necessary, especially if no infection or iritis follows. The same may be said if the foreign body is lodged in the iris, although under these circumstances, in drawing out the steel with the magnet, some iritic tissue will very likely come with it. I once saw a piece of steel so firmly embedded in the iris that the magnet not only drew out the steel but the entire iris at the same time. This is a danger that must not be overlooked, and too much magnetic force should not be applied under conditions of this kind.

If a little of the iris escapes it may perhaps be coaxed back into place again, but if it proves obstinate it may be cut off, thus making an iri-



dectomy. A well dilated pupil will sometimes disclose the foreign body in the anterior capsule or in the lens itself. Steel in this location can usually be withdrawn with the magnet, but not always, and some authorities advocate that, inasmuch as the lens is practically unsupplied with nerve tissue, if a foreign body is located in the lens it can be let alone, but with this view I do not agree, because I believe that intra-ocular foreign bodies should be removed wherever they are if possible, and if it is necessary to remove the lens as well as the foreign body I should certainly advocate this procedure rather than to allow a piece of steel to remain in the lens in the hope that no trouble would follow. One cardinal rule I have found of great value, and that is to make my incisions amply large enough to allow of the easy exit of the steel. This more than anything else I believe avoids unnecessary traumatism.

Of course one of the first things we have to do in dealing with intra-ocular steel particles is to have recourse to clear and intelligible x-ray pictures. Whenever I am in any doubt whatsoever as to whether there is a foreign body in the eye I have x-ray pictures taken in order to clear up the situation. I find that patients are not reliable witnesses under these conditions. Most men who have received injuries claim that there is nothing inside of the eye, but I pay no attention whatsoever to opinions of this kind. I must have good x-ray pictures. Not all x-ray pictures are reliable. I have been deceived both ways, I have been told that there was nothing in the eye where there was and that there was something in the eye when there was not, but as a rule dependence can be placed upon clear x-ray pictures, but they must be clear and good, and taken by a man who understands his business. I always insist upon two clear pictures, one a profile picture and the other a front view picture. If these pictures are good they will, in my opinion, be a sufficient guide as to the locality of the foreign body without going through all of the trouble of what is known as "localization." Of course I have no *objection* to localization, and sometimes it is useful, but I believe in a very vast majority of cases that a good profile picture and a good front view picture will disclose the location of the foreign body sufficiently for all operating purposes. It is not necessary, although perhaps desirable, to get a strong magnet

directly over the site of the steel. The interior of the eyeball is not a *vast* place after all and, in my opinion, if a magnet is going to draw a piece of steel from the interior of the eye, it will do so any way if placed somewhere near the location of the foreign body.

In operative work I divide my operative procedures into two parts, namely, foreign bodies located in or anterior to the lens, and foreign bodies located posterior to the lens. In foreign bodies located in or anterior to the lens I believe it to be advisable to remove the foreign body by what may be called the anterior route, that is, through the cornea, but where foreign bodies are located posterior to the lens I believe it is better to make an opening through the sclera and remove the foreign body through the posterior route. This is a dictum which I enunciated many years ago. This view was at first scorned by most ophthalmologists, who believed in following the rules of Haab, to remove all foreign bodies through the cornea, but I believe now that the rule of removing foreign bodies that are posterior to the lens through the sclerotic is quite generally endorsed. I will make a single exception to this rule, and that is, if I have a patient who comes to me within a few hours after he has been injured, and the steel has entered through the cornea and perforated the lens, thus producing a cataract, and is lodged in the vitreous chamber, with as yet an unhealed wound, I give this man an opportunity of removing the steel through the avenue of ingress, but, if he comes to me after the wound has healed, I then remove the steel through the posterior route. Of course if we remove steel through the anterior route we should do whatever seems necessary under the circumstances. If there is a prolapse of iris it should be cut off; if there is a cataract as much of it should be removed as can be removed in safety.

Some reasons for removing steel, located posterior to the lens, through the posterior route are as follows: In the first place it must be remembered that there are very few genuine Haab magnets in this country. A genuine Haab magnet is a double ended affair, setting upon a standard, and extremely powerful. The magnet is never removed from the standard, the patient sits in front of the magnet and the head is moved in various directions in place of the magnet being moved in various directions. Inasmuch

as there are so few of these magnets in this country there is very little use in giving instructions as to what to do with a Haab magnet. There are various magnets, that are erroneously called Haab magnets, that are put upon the market by electric concerns, but they are not really Haab magnets. The genuine Haab magnet is capable of drawing small particles of steel from the extreme posterior portion of the eyeball into the anterior chamber, but the magnets that we American ophthalmologists use are frequently not capable of so much drawing power.

It is almost amusing to read the descriptions of how a piece of steel can be drawn by the magnet along the floor of the vitreous chamber and then coaxed carefully along the surface of the ciliary body and through the ligament of the lens into the space back of the iris and then raised up as high as the pupil and drawn through the pupil and dropped into the anterior chamber of the eye, and then taken out by an incision in the cornea without injuring the lens, or anything else for that matter. I do not question but what this can be done, in fact I have done it myself, and I have seen Professor Haab do it in Zurich, Switzerland, but it is quite evident that this can only be done with very small pieces of steel, and with pieces that have no particularly sharp corners to catch, pull and tear the delicate structure of the eyeball as it comes along. Steel objects of any particular size will have to be drawn directly through the lens itself, thus producing a cataract, if a cataract has not already been produced by the accident itself. I am, therefore, firmly of the opinion that objects located in the vitreous chamber of the eye had better be removed by an opening through the sclerotic coat of the eye and am confident that much less damage is produced than if we endeavor to pull a ragged, jagged piece of steel of average size through the delicate anatomical structure in the anterior portion of the eyeball. I am well aware of the fact that an operation such as I advocate is liable to produce hemorrhage in the vitreous chamber, detached retina, atrophy of the choroid, etc., but I still contend, all things considered, that this is the safer route of exit of objects located in the vitreous chamber. In performing this operation I make my incision in the quadrant of the eye nearest to the foreign body, as indicated by the x-ray pictures. In other words, my incision is made either between

the external and inferior rectus muscle, or the inferior and internal rectus muscle, or between the internal and superior rectus muscle, or between the superior and external rectus muscle. I pick up a piece of the conjunctiva with forceps near the sclero-corneal juncture and make an incision with a pair of scissors. I make a triangular flap of the conjunctiva and lay it back, thus disclosing the sclerotic coat of the eye. I then take a Graefe cataract knife and plunge it through the sclera and make an incision parallel with the fibres of the sclera from before backwards, avoiding of course the ciliary processes. The size of the incision of course is graduated according to the size of the object, as indicated by the x-ray picture. I then place the strongest end of the magnet at the opening and turn on the current. If the object does not present readily I turn the current on and off several times so as to jerk the object loose. I direct, or aim, my magnet in the direction of the foreign body as near as I can, as I believe in this way the object is more apt to come out end to end, instead of broadside. It is much easier to pull an object out if it presents end to end, than if it presents broadside. I try not to be impatient if the object does not come at once but keep on using the magnet, being sure, by testing it from time to time, that it is working. If the operation proves tedious I pass the magnet as far back into the orbital cul-de-sac as possible and milk it forward, trying to coax the object along toward the incision. I never introduce a magnetic end into the eye itself until all other methods have failed, because I believe that eyes are not infrequently destroyed by the intra-ocular manipulation of magnetic ends. Of course it sometimes happens that the object is firmly wedged into the sclerotic coat of the eye and will not come loose, in which case I leave it. It may also happen that a steel particle passes entirely through the eye and is lodged in the fatty tissues of the orbit, in which case it is best to leave it alone if we are convinced of its location by the x-ray pictures. I sometimes have been able to remove foreign bodies through the sclerotic opening by holding the two lips of the sclerotic wound apart by two little demagnetized hooks that I suggested years ago. Every effort should, of course, be made to avoid losing vitreous. If I am compelled to introduce a magnet point inside of the eye, I never do it more

than twice, as I would rather leave the foreign body than destroy an eye by a meddlesome surgery.

After the operation is finished I never suture the sclera, as this membrane is so tough that considerable vitreous is liable to be lost in suturing it, and beside that we leave inside of the eye by means of the suture a particle of silk thread that is liable to produce infection. I simply pull the conjunctival flap over the opening and close it with two sutures, one on each side. I never endeavor to suture the apex of the flap, on account of the scarcity of conjunctival tissue that will always be found near the sclero-corneal juncture and the danger at this point. I have removed hundreds of particles of steel in this way and have never regretted not having sutured the sclera.

It must never be forgotten that the end results in cases of this kind are not always good, no matter how smooth the operation may be nor how soon after the invasion of the foreign body the operation is performed. Intra-ocular changes, panophthalmitis, cataract, iritis, sympathetic ophthalmia, etc., may follow, and ruin what appears to be a favorable operation. Nevertheless, I believe that by following the suggestions offered in this paper the best results will be obtained in the removal of steel particles from the interior of the eyeball.

I have for many years used the hand magnet, invented by Doctor Sweet of Philadelphia. While it is a hand magnet and can be conveniently manipulated with accuracy and delicacy, it is nevertheless very powerful, and I have very seldom been disappointed in its use.

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#### ORTHOPEDIC SURGERY—HAVE THE PRESENT ADVANCED METHODS IN DIAGNOSIS AND TREATMENT REDUCED MORBIDITY OR LESSENED THE PERIOD OF DISABILITY\*

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A remark by one of America's greatest surgeons some years ago seems *apropos* in the consideration of our present subject. That is, that a fundamental truth still remains a truth irre-

spective of the lapse of time, and that, after a subject is once fully mastered, even with the limited knowledge of its day, it is surprising how little of real value is added in the course of a decade or a generation. As an illustration let us turn to the original address on appendicitis delivered by Reginald Fitz of Boston in 1886—his description of its onset; the pathologic changes incident to its course; his observations as to time limit before suppuration ensues, and a prophesy that at some early period appendicular removal would be the operation of choice before the infection had broken its barriers—to all intents and purposes covered the field of our present knowledge except as to minor details as we understand it today.

We must admit that orthopedic surgery has advanced greatly during the past ten or fifteen years; and yet in looking back we are impressed with the fact that but little that is new has been added; and that the advance we so enthusiastically applaud is predicated upon a more courageous attack as our knowledge of tissue repair is widened, and the value of strict asepsis understood.

All of us recollect the great furore created in the surgical world when Dr. J. B. Murphy published his work on arthroplasty of the joints and bone transplant. And it seemed as if the last word in the treatment of fractures was reached when Sir Arbuthnot Lane delivered his address on bone plating. In the case of arthroplasty and bone grafting, there are several cases in which the principle was applied long before Dr. Murphy was known. And one need but search the pages of our older surgical works to find numerous instances of bone plating embodying most of the principles enunciated by Lane. Personally I used the principle recommended in his operation before Lane had begun to practice, and it was old even then. So in the consideration of our subject, our credit is not in discovering something new, but in the manner in which our work is correlated or systematized, with a known object in view, combining every means, scientific as well as mechanical, as hand-maidens in securing the ends desired. Those old fogies whom we are so free to patronize even long before the surgical or antiseptic era, were not without vision and achievement. Let us note that in non-union of bones we find that Shede used wire needles to correct the pseudo-arthritis

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with union in all cases. Pancoast drilled the bones. Diffenbac used wire pegs. White of Manchester in 1760, long before the age of anesthesia or antiseptics, resected in a number of cases with brilliant results. Horeau used metallic wire to bind together the fragments in oblique fractures. Rodgers of New York passed wire through holes drilled in the end of bones. Plates of german silver with screws securing them in position were also used. Hamilton engaged the end of one bone in the medullary canal of the other with success. Even the brilliant work of bone transplantation, developed and standardized by our own Murphy, was anticipated by Nussbaum in 1875 in the case of a fractured ulna with loss of substance, in which he shifted a fragment of the upper segment to the lower, leaving its fibrous attachment intact with perfect results. So as we delve into the past we discover that much of our modern conquests are filched from the past; and if we are not blinded by the new light, we find the old ideas may be classified as seasoned rather than senile. During the past three years I have given a great amount of time and study to the department of orthopedic surgery. During that period hundreds of cases have been examined or treated. In some of these cases weeks and months were consumed in investigation and treatment. I have called to my aid some of the best equipped men in this department from our neighboring city, and drawn liberally upon the knowledge and experience of my associates who were engaged in industrial surgery. I have used all the new mechanical appliances and corrective measures advocated by advanced science; been aided by expert roentgenologist, and employed a trained physiotherapist to carry on when we had reached the limit of our corrective measures either surgical or mechanical. And a candid review covering the entire field has to my mind been disappointing. Not but that much good was obtained in many cases in correcting deformities and making the injured more comfortable, but that in many cases the long period of confinement in the hospital, associated with like unfortunates, a post-graduate school as to compensation based upon certain symptoms and disabilities usual to, or possibly associated with their injuries, in many instances balanced the real good into a psychological real harm. To this was added chance remarks or problematical

discussions as to causes of certain symptoms which with the greatest of care may be overheard by the patient, and their minds being receptive, they consider as facts rather than undeveloped theories. In this connection we also must contend with the x-ray. Most of us are so circumstanced that the demand of the injured for an inspection of the plates cannot be denied, they assume the condition is bad, or that the surgeon is guilty of some gross error, that it is less harmful to show than to hide. And although our experience is in keeping with that of Stimpson, from whom Scuder quotes as to deformities, "Irregularities of outline are functionally and cosmetically unimportant in the great majority of cases in which proper non-operative treatment has been used; anatomic results are ideal and theoretically desired; practically, they are non-essential"; to which I might add—provided the line of axis is maintained. However, the patient, noting the overlapping or comminuted bones, deems a large degree of disability certain, and in many instances develops whatever symptoms he deems most desirable. Then, there is the interpretation of our expert Roentgenologist in obscure injuries, especially of head and spine. Of the latter, the frequent deviations in the normal vertebra without disability are so common, that with a given symptomatology, any good reader of plates is able to discover conditions which explain the symptoms; and with this verdict the surgeon is helpless, even though he may be confident no injury to the bones was sustained. In this class we can list some forty cases. All magnified their disability, and in fully one-half we could be pardoned for skepticism as to their truth based upon proved pathology.

I hope you will pardon my skepticism as to what constitutes a proved pathology in injuries to the bones of the spine. I have had so many different interpretations by men who know and whose opinion varied so widely, that I must admit difficulty in reconciling these divergent views; and in this connection the thought occurs, why should a bone structure heavily cushioned with muscles with a degree of motility which accommodates assault, where the segments fit so snugly with supplementary bony bracing, all bound together so firm with fibrous bands interlaced in all directions so as to make the separation of a fracture of



bodies nearly impossible, and of spines or transverse processes but slight, why should nature be so profligate in its efforts to repair, as to send out bony offshoots into friendly tissues under the pseudo guise of traumatic arthritis, when no possible advantage can accrue by the strengthening of the weakened structures. Why, may we ask, does this condition find such frequent lodgment in the spinal column and so seldom occur in other localities, when on account of marked separation of fragments or fragmentation with more or less degree of movement which encourages exostoses, we seldom find the classical spurs which form such an interesting subject for discussion on the vertebral column. Why is it that in our elective work we resect a cervical rib, or two or three spinous processes, that no ill effects in weakening the columnar pyramid is experienced; but when a shadow is found in the picture that suggests fracture of a spine or transverse process, an opinion of a grave disability if not admitted, is not seriously contested. Why, may we ask, during the years of our ignorance when all back injuries men classified as strains, contusions or rheumatism, the percentage of permanent disabilities except in the major type, was almost nil; and that now with the advances in means of diagnosis and standardized methods of treatment, the disability as frequently interpreted, means a lengthened, temporary or a possible permanent disability.

I have had about twenty cases of those obscure conditions of so-called traumatic lumbago. In this class of cases I have had very satisfactory results. A majority were proved sacroiliac displacements, and all such were relieved by manipulation. Some twelve cases of acromial bursitis presented; and except in one case, no benefit accrued from any line of treatment adopted. In none of these cases was there any calcareous deposit discovered by x-ray; and all were associated with ligamentous or capsular involvement. The coraco brachialis and short head of biceps at their insertion in the coracoid process seemed the point of greatest pain. As one line of treatment proved unsatisfactory, another was adopted; so I had immediate fixation, extension, early movement, massage, heat and violet rays given by a trained physiotherapist. My results, irrespective of a fixed procedure in one case or all used in others, was disappointing

until I adopted the method or principle advised by Sir Robert Jones. He used the airplane splint with external rotation. I found the principle sound, but the method illy borne, even when cooperation on the part of the injured was assured. So in my ambulatory cases I bound the hand to the back of the head, and in the other cases to the head of the bed. The results in the two cases in which this method was used were much more satisfactory, and the usual permanent disability was avoided.

In osteomyelitis cases I adopted the method of "Chutro," which has been used with such good results in the Government Reconstruction Hospital. This consists of a thorough preparation of the field by guttering the bone and removing all foci, packing with a gauze tampon saturated with Dakin's solution and daily rubbing down the granulating tissue with green soap, using a gauze sponge. While all these cases recovered satisfactorily, I question whether the results were any better or as good as those which I had previously used, to wit: A thorough preparation of the field until healthy granulations developed, and then filling the cavity with the Von Mosig-Moorhoof bone plug. I personally prefer the latter, inasmuch as the daily treatment by the Chutro method occasions some pain; required the daily personal attention of the physician, and has a tendency to produce a degree of neurosis in the patient. The bone-plug, on the contrary, forms a scaffold for the bone buds, and the resistance of the plug prevents exuberant growth beyond a point of proper nourishment, insuring a more rapid convalescence.

My experience in the treatment of hammer toes, bunions, club and flat feet, was along old accepted lines. In the three former classes, successful; in the latter, only fairly so. I have endeavored to build up the arches by moulded plaster-of-paris, and supported by mechanical appliances. Have had some improvement in all cases, but no satisfactory cures. I have had no occasion for plating in fractures. In the use of the Holly table, I found that although we were unable to prevent some overlapping in some kind of fractures, yet even in these I was able to apply splints so as to insure a good axial line and consequent satisfactory functional and cosmetic results. I had one case of tibial bone transplant; it was a failure. It lay dormant for months and

then developed an osteomyelitic condition and had to be removed. In one case of old shoulder dislocation, necessitating operation. I had 95 per cent. restoration of motion; this being nearly one-half in excess of the average results. My results in Colles' fractures where there was not irreparable damage done to the soft parts or excessive fragmentation of bones, has been uniformly good. In no case is reduction attempted except under full anesthesia, and in all cases of Colles' fracture care is taken to disengage any impaction of the fragments so as to avoid the danger of a tenosynovitis by the roughened edge of the distal fragments. In some of the referred cases of Colles' fracture, I found the original injury was of minor importance in comparison with the sequela incident to improper reduction or interference with the circulation by constricting bandages or improper splints. In these cases myositis and ischemia had resulted, making the disability of hand and digits permanent. My experience in Pott's fracture, while limited, is in keeping with those who have had the opportunity of observing a large number of cases, in the fact that no matter how careful one may be in over-correcting the deformity, some permanent disability usually results. The injured may have a perfect approximation at time of discharge, but in the course of from four to six months, eversion, little or marked, is noted, and the disability is emphasized by conditions under which he must labor. My conclusion is that in nearly all of these injuries the patient is permitted to use the limb too soon, and that from one to two months should be added to time now allowed before weight bearing is permitted. In evulsion fractures of the os calcis where the separated bone is attached to the tendoachillis, I found that efforts towards reduction and retention in normal position by following usual methods or textbook rules, whether in recent or late cases, were disappointing; even with a skewer pin back of the tendon and exerting force to the point of tendinous rupture, reduction could not be accomplished. In old injuries, and in the more recent ones, the fragment could not be kept in apposition. I will in the future adopt the method advocated by Dr. Magnuson, of severing the tendon; when this is done, reduction is made easy and retention assured. I have had some very satisfactory results in fractures in and about the joints; conditions which in my past experiences,

presumed ankylosis recovered with free motion or little limitation. In our work we endeavored to use the same judgment a mechanic would use in his ordinary vocation; endeavoring to apply these principles with consideration of our anatomical structures. While each case was a law unto itself as to time of passive motion, I observed the fundamental rule of superlative fixation in all fractures in or near the joints, and endeavored to do this in such a manner as to keep the articular surfaces separated. In my observation of cases of knee injuries I have had occasion to change my opinion and treatment materially. Heretofore when the x-ray disclosed no pathology, and there was not the classical joint locking, I was inclined to believe that either there was a ligamentous strain or that the patient was a malingerer. I had operated several times during the preceding years when there was a demonstrable knee mouse, but as a heritage of pre-antiseptic age, with a universal popular fear, I in common with a large majority of the older surgeons, was loath to lay open the knee joint as an elective operation, unless diagnosis was positive, for fear that an ankylosis would ensue and the cure would be worse than the condition which I hoped to alleviate. This attitude was maintained in spite of Morrison's experience published in 1910, where in some five hundred cases he operated for injury to the semilunar cartilages with almost universal relief, and no untoward sequela, with unbelievably shortened disability. Added to this was the report of Sir Robt. Jones of an equal number of cases in which it was demonstrated that a cartilage did not have to be detached, but that a fracture or slight movement or even fatty intrusion from surrounding tissue would create irritation and possible arthritic sequela, and that the classical locking was not present in a large majority of cases. While my cases were few in number, there was one error in the advised operations which I think should be avoided. All authorities advise that the loosened portion of the cartilage only should be removed. In my first case I followed this plan, endeavoring to sever the loosened portion from the attached segment; whether the uneven surface resulting therefrom, or the possible detachment of cartilage caused by the cutting, I found that relief was not obtained. Cases in which the entire internal fibrocartilage was removed, gave complete satisfac-

tion. I am convinced that a large number of this class of cases, on account of non-recognition or ultra conservatism, are condemned to the human scrap heap.

No cases presented in these series required nerve suture. I call to mind only three cases upon which I operated in the past; all were successful. In one case of marked interest, was the cutting of the musculospiral two and one-half inches above the condyle. This was of eight months' standing. The segments were separated about one inch, leaving a space of one and three-fourths inches after the fused ends of nerve was amputated. The break was bridged by muscular bundle and surrounded by fascial sheath. After a year I gave up hope and lost track of the patient. Some two years later I was much surprised and pleased to learn there had been full restoration.

I have had occasion to suture tendons only three times during a period of four years; the result in all but one case was satisfactory. These were all fresh cases. Some old injuries of this description were seen but the atrophy of tendon and soft tissues held out no hope of success, and only emphasized the necessity of repair immediately after the injury.

To cover this field, giving even slight consideration to each case, could not be attempted in this paper. We are more and more impressed with the biblical assertion—"In the place where the tree falleth there it shall be"—and while in many of the cases of old injuries, where the individual was in a manner adapted to the new conditions, we were loath to interfere. The lesson learned is that if we hope to avoid disabilities we must do so in our initial work. That which comes later is equally unsatisfactory to the physician and to the patient. In all injuries that necessarily confine the patient to a hospital for a long period, the psychological element cannot be ignored. The constant interchange of opinions and comments upon symptoms and possible sequela; the degree of disability and the damages or amount of compensation due conditioned upon any improvement or restoration to former normal use, grows as the period of disability is lengthened; and a point is reached in many of these cases whereby the constant feeding upon the goblins of their own hallucinations, the imaginary becomes real and they are wholly unfitted

for any gainful vocation. This could be obviated to a large extent if vocational training was substituted for the smoking room. Most of the men in the beginning of their convalescence find time hanging heavily on their hands. However, in a longer or shorter period, according to individual idiosyncrasies or temperamental balance, a physical and mental lethargy results; their moral stamina becomes undermined, and it is seldom after a long exposure to this condition that the individual every fully reacts. So while we are endeavoring to loosen the tangled knot of physical infirmities, let us not neglect to mix a full measure of sense with our science.

#### CLINICAL INTERPRETATIONS OF THE BASAL METABOLISM TEST\*

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A physician receiving a report of the result of a basal metabolism test made of his patient, is informed that the rate is +25 per cent. or perhaps -20 per cent. Frequently this means but little to the referring physician and it is the purpose of this brief paper to explain the significance of these findings.

The normal basal metabolism has a range of from plus 10 to minus 10 per cent., the same as the normal temperature may vary from 97.5 to 99 degrees F. If a metabolic rate is above +10 or below -10 per cent., and the test has been carefully made after the patient has been suitably prepared, this justifies the diagnosis of some pathological condition associated with an altered metabolic rate, the seriousness of the pathology being proportional to the extent of the alteration in the metabolic rate.

The greatest usefulness of the metabolism test is in the diagnosis of thyroid and pituitary disorders. So much has been written about the metabolism test in connection with goiter conditions that many physicians believe the rate of metabolism is influenced only in thyroid disorders. While a very high percentage of all abnormal basal metabolic rates are dependent on an altered function of the thyroid, there are other conditions which affect the rate.

The basal metabolism test is useful in the following conditions:

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A. The metabolic rate is *increased* in—

1. Hyperthyroidism, that is, exophthalmic goiter or thyro-toxic adenoma (from +20 to +40% in mild, +40 to +60% in moderate, +60 to +100% or more in severe cases). In non-toxic enlargements of the thyroid (simple goiter), as non-toxic adenoma, adolescent goiter and colloid goiter, the rate is normal.

2. Leukemias.

3. Typhoid (mainly because of fever).

4. Later months of pregnancy and early in the puerperium.

5. All fevers (from +5 to +10% rise in metabolism for each Fahrenheit degree rise in temperature).

6. Pernicious anemia (as high as +40% in some cases).

7. Hyperpituitarism, that is, gigantism or acromegaly (up to +40%).

8. Diabetes (up to +20% in early cases, although below normal after the patient becomes emaciated).

9. Cardiac decompensation (up to +40%).

We can conclude from the above that if the metabolic rate is +45% or more, the diagnosis is practically certain to be hyperthyroidism. There is no other pathologic condition which will increase the metabolic rate so high as this disease. However, if the rate is from +15 to +40% the diagnosis is not necessarily one of hyperthyroidism. If, however, a blood count eliminates a primary anemia, no sugar is present in the urine, cardiac examination reveals no decompensation, a febrile condition is eliminated by the thermometer, and a physical examination is negative for pregnancy or changes produced by hyperpituitarism, then are we justified in interpreting the increased metabolic rate as due to hyperthyroidism. In actual practice we find, however, that over 90% of all abnormally increased metabolic rates are due to a hyper-function of the thyroid.

B. The metabolic rate is *decreased* in—

1. Myxedema and cretinism, that is, hypothyroidism (as low as -25%).

2. Frohlich's syndrome of pituitary origin (about -25%, although in Frohlich's syndrome of the eunuchoid type, from which it is most often clinically indistinguishable, the rate is normal).

3. Pathological obesity of hypothyroid or

hypopituitary origin. Although in simple obesity (the obesity of laziness and big eaters) the rate is normal. In the former, glandular therapy is indicated, but in the latter, thyroid preparations should positively not be used, since thyroxin increases the combustion of muscle tissue instead of fat tissue.

4. Extreme cachexia, as in tuberculosis, diabetes, prolonged starvation, etc. (as low as -30%).

5. Persons in perfectly normal health, but running a slow pulse, say as low as 50, may show a metabolism rate as low as -20%.

6. Addison's disease (about -30%).

Combinations of these conditions may give any kind of a rate, that is, an emaciated tuberculous patient with fever may be low on account of the emaciation or high on account of the fever, or normal on account of both variations counterbalancing each other.

Since there are so many pathological conditions which raise or lower the rate of metabolism, the question often asked is: Why is the test used only in diagnosing thyroid and pituitary abnormalities? The answer is simply this: All of the above named pathological conditions, excepting those of pituitary and thyroid abnormalities, are diagnosed far more readily by other more obvious means. Who needs a metabolism test to recognize leukemia, diabetes, or cardiac decompensation or a full term pregnancy?

However, suppose a clinician in a suspected case of hyperthyroidism finds the metabolism increased, say, 30%. If the patient has four degrees of fever at the time of the test, and the clinician does not know that the metabolism is markedly increased by fever he would be easily misled into error in his diagnosis of hyperthyroidism. Therefore, although we do not find a use for the test in diagnosing most of the conditions named above, it is absolutely necessary that we bear in mind that these conditions influence the metabolic rate.

On the other hand, we have no means of recognizing a beginning hyperthyroidism in the presence of symptoms suggesting incipient tuberculosis, or neurasthenia, or the neuroses of adolescence, excepting through the basal metabolism test.

Likewise, the two types of Frohlich's syndrome



can often be distinguished only by means of a determination of the metabolic rate.

Addison's disease has often been confused with myxedema, because of the pigmentation of the skin observed in some cases of the latter, when (if the low blood pressure symptom is doubtful, as from a complicating nephritis) the two can be differentiated only by the therapeutic test, that is, through thyroid therapy, controlled by successive metabolism determinations.

Patients complaining of recent rapid gain in weight can not be effectually treated until the metabolism rate shows whether the condition is that of the simple or of the endocrine type of obesity. Having determined by the basal metabolism test whether the condition is one of simple or of pathologic obesity, the data obtained from this may then be used to estimate the caloric or dietetic control of the one, and the thyroxin or thyroid gland treatment of the other.

The test is of most value in the borderline cases of hyperthyroidism, and while one seldom requires the test for recognition of the more advanced cases, it is most often in the advanced cases that the test is required to show how the disease in each individual case responds to treatment—x-ray, radium, rest in bed, ligation, thyroidectomy—and also to indicate which form of treatment in a given case is the better one to employ at the outset.

Perhaps nothing is more striking than the use of the test in determining whether or not the correct dosage of thyroxin or thyroid preparations is being used in the treatment of myxedema, since these preparations vary in strength from nothing to full potency, and since individuals vary in the amount of the drug they require to bring the metabolism up to the normal basal level.

Another question is often asked: Is it possible to decide by the aid of the basal metabolism test whether or not radical operations may be safely undertaken in moderately severe cases of hyperthyroidism? Mayo (Surg. Gyn. and Obstetrics, March, 1921) believes that a patient showing a metabolism rate of +40% is a more dangerous risk surgically when the rate is on the upgrade, than the one whose rate is +60%, with the rate on the down grade, as shown by successive tests, taken a few weeks or days apart. Other factors, that is, the age, the state

of nutrition, condition of the heart, etc., are obviously most important, in deciding the question of operation.

To those who desire to know more about the interpretation of the basal metabolism test the articles by Du Bois and his co-workers in the Archives of Internal Medicine, Volumes 17 and 19, will prove most interesting. In the J. A. M. A., issues of July 23 and 30, 1921, there are a number of articles representing a symposium on "Basal Metabolism in Clinical Medicine," which was given at the A. M. A. meeting in June, 1921. The authors are among the leading authorities on the test in this country. The paper in this series by Means, who is a clinician and reports the excellent work done at the Massachusetts General Hospital, condenses the subject of basal metabolism interpretations to its most rational limits. (For 25c the entire symposium, bound under one cover, can be secured from the A. M. A.)

In conclusion the author wishes to acknowledge his indebtedness to a splendid article from the Department of Experimental Medicine, University of Illinois College of Medicine, by H. M. Jones, Ph.D., entitled "Control of X-Ray Therapy in Hyperthyroidism by the Basal Metabolism Test" (Journal of Radiology, March, 1922), from which he has freely borrowed in writing this paper.

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## CONSIDERATIONS IN SUPRAPUBIC PROSTATECTOMY\*

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The diagnosis of hypertrophy of the prostate does not carry with it the direct indication for its removal. Only one patient out of eight or nine has symptoms sufficiently marked to warrant prostatectomy. Many old men with large prostates do not complain of symptoms referable to this pathologic condition. What symptoms then indicate the necessity for operation?

1. When the frequency of nocturnal urination is so great as to materially interfere with the rest of the patient.

2. When the amount of residual urine is so

\*Read before Jackson Park Branch, Chicago Medical Society, January, 1922.

great as to become readily infected and undergo alkaline decomposition with ensuing intoxication of the entire organism.

3. When obstruction to the natural efflux of urine is so situated as to make normal urination difficult or impossible.

These three circumstances then are sufficient cause for operation, provided that the patient is in condition to withstand an operation of major dignity. This is extremely important and should in no case be lightly considered. We can "condition" our patients before operation and many times improve their chances of satisfactorily undergoing operation. We must inquire carefully into renal function. Blood chemistry will demonstrate whether there is nitrogen retention. We must determine the blood pressure, we must have competent opinion in regard to the heart and lungs. Let us assume that our patient has a blood pressure of 180 to 200 or above, that his kidney function is poor, and that his chest shows pathologic conditions, for example, bronchitis. Can we expect to operate on an old man with such complications and anticipate with great complacency a satisfactory outcome? I do not think so.

*Preparatory Treatment.* Our procedure should, therefore, be to put the patient in the hospital and by proper dietary and other means of general hygiene try to bring him more nearly to the status of a good surgical risk.

Daily bladder irrigations, with silver nitrate 1:10,000 will reduce the danger from contaminated urine. (It has been my practice never to operate as long as there are any streptococci in the urine.) Catheterization at regular intervals will add to the patient's comfort and do away with residual urine which soon causes the bladder to become full and interrupt the patient's rest. These procedures, of course, lessen the concentration of bacteria in the urine.

Baths will improve the general tone of the patient and activate the excretory function of the skin. Properly graded amounts of warm fluids improve the kidney function. Abstinence from heavy nitrogenous foods and condiments will remove a source of expenditure of renal efficiency. As the status of the patient improves, the blood pressure will be reduced and the hemoglobin increased. Preparatory care may have to be carried out as long as four to six weeks, the improvement, however, making the procedure

decidedly worth while. Some patients will not respond readily. In certain patients the blood pressure may not be brought down until following cystotomy. In such men *par excellence* a two-step operation is especially indicated. It is interesting to note how rapidly many of these old men improve following cystotomy for drainage, in the event of a badly infected bladder and marked obstruction with subsequent renal deficiency. There are, however, certain patients who cannot withstand even so simple a procedure as suprapubic cystotomy; in these instances carrying out the suggestions as to general hygiene will permit most of them to come through satisfactorily. Time will not admit of a minute discussion of other general or special measures, but the experienced medical man will be able to supply these as the occasion demands.

In regard to the *catheter a demeure* or retention catheter: this undoubtedly is a great aid in overcoming many of the symptoms of which the patient complains; however, certain patients cannot tolerate a retention catheter for seventy-two or ninety-six hours, and others develop epididymitis, unquestionably due to the presence of this foreign body in an already infected posterior urethra.

*Operation.* The suprapubic cystotomy can easily be done under local anesthesia with novocain. The important point in this operation is detaching the peritoneum from the bladder. This is best accomplished with the gloved index finger or by wrapping a gauze sponge over the finger and carefully pushing the peritoneum upward until the entire fold is away from the operative field. Carefulness is the watchword in this manipulation and speed may be sacrificed for nicety of technic. In many cases the peritoneal fold is actually as low as the symphysis or may even be attached behind it and in spite of filling the bladder to comfortable capacity, the fold does not rise with the distended bladder. To break through the peritoneum by rough manipulation is surely a technical error but not an irretrievable one because if noted immediately, the tear can be completely and satisfactorily closed. Usually there are no unfavorable sequelae. The bladder now is opened by plunging a sharp-pointed knife through the entire wall into the cavity and incising toward the symphysis pubis. The incision need not be over one-half inch long because it is best to enlarge it bluntly with an

eight-inch forceps. The bladder now being open, the filling fluid (a  $\frac{1}{2}$  per cent. protargol solution) escapes over the field of operation and must be sopped up with laparotomy-pads. Some surgeons utilize a suction apparatus employed with a trocar so that little or no filling fluid is spilled with the possible contamination of the field.

The placing of retractors is an important nicety at this point of the operation. Retractors which are not too deep are best. Two retractors placed laterally with a third bayonet shaped one at the symphyseal angle afford the best opportunity for inspecting visually as well as examining with the finger, the interior of the bladder. Stone may coexist, a diverticulum may complicate, or a tumor may be present. These circumstances, as well as the character of the prostatic hypertrophy, should have been determined cystoscopically long before operation, but now and then one or the other may be overlooked. This is, therefore, the time for the surgeon to orient himself thoroughly in regard to all existing pathologic conditions in the bladder.

The actual technic of removing the prostate has excited long-drawn-out discussions. In enucleating the prostate, Freyer of London pushes it upward with the fingers of the left hand in the patient's rectum, thus bringing it nearer the enucleating finger. The theoretical objection of some operators that the bed of the prostate and incision may later become infected from the fingers which had been placed in the rectum cannot be categorically answered. Before closing the bladder about the drainage tube, Freyer changed his gloves and gown, and he, as well as many other men using this technic, have obtained splendid results.

Another technical question on which a great difference of opinion has existed concerns the enucleation of the prostate. Some begin by cutting through the bladder wall over the most prominent point of the tumor until prostatic tissue is seen and the enucleate bluntly with the finger. Others begin by putting the index finger into the posterior urethra, nicking or breaking through the urethra into the proper cleavage. I have used both methods, and while the first would seem to be the better procedure surgically, the enucleation usually proceeds readily in either instance.

After the bladder is opened, completeness of removal of the prostate and hemostasis are most important. Some surgeons will state that the bleeding in a properly performed prostatectomy is insignificant. Nevertheless the bleeding in all cases is of considerable degree even if the cleavage between the prostate and the so-called capsule is perfect. It is worth every effort the surgeon may put forth to stop such dangerous hemorrhage. Ordinarily the bleeding will cease if the bed of the prostate is thoroughly packed. The so-called brilliant operator may enucleate a gland in five minutes and in five minutes more may have his patient on the way to his room, and "get away with it," and another time his patient may bleed to death in his own bladder. Many patients become so exsanguinated that even if they recover from the immediate effects of the operation, they fall easy prey to any acute infection during convalescence.

In packing the bed of the prostate as indicated, the packing may be allowed to remain as long as eight days without ill effect. Usually, however, it loosens on about the third or fourth day and then may be partially or entirely removed. The criterion for removal or not is whether it can be easily withdrawn. In a patient recently operated on the packing was left in for eight days and the suprapubic wound not only closed readily but more rapidly than usual.

*Drainage of the Bladder.* Drainage is best obtained by suturing a large size rubber tube into the bladder with its end about one-half to one inch above the bladder floor. It is desirable to have this tube emerge as nearly as possible from the upper angle of the wound. A glass "elbow" is connected to the rubber tube in the bladder cavity and also to a long drainage tube of similar caliber, which is led into a large bottle and siphonage is maintained.

*Suture of the Bladder.* Special attention should be paid to securing a perfect closure of the bladder especially at the symphyseal angle. This is best accomplished by taking good-sized stitches in the muscularis, but not encroaching on the mucosa. Thus the mucosa is inverted. It is desirable here as elsewhere in reparative work to obtain a broad approximation of the cut edges. The suture is a continuous one of plain catgut, up to the point in the wound whence the drainage tube emerges. Above this tube a similar suture line is placed. To make the closure

more nearly water tight, a second line of sutures should be made, whipping the muscularis over the first line of suture.

A drainage tube is left in the space of Retzius and a small tube is placed under the fascia of the rectus muscle parallel with the incision to prevent any possible accumulation of serum, blood or urine under the muscle. The latter may be removed after twenty-four hours, and the tube in the space of Retzius on the third day.

*After Treatment.* The patient is kept warm following the operation and constant attention is paid to the drainage, the amount of urine being measured daily. Often the variable amount, taken up by the large dressings over the wound, must be estimated. Special watch must be kept for any sign of hemorrhage. The pulse rate should be observed at thirty-minute intervals for the first twenty-four hours.

The position of the patient should be frequently changed, to lessen the chance in these old men of hypostatic pneumonia. The heart action must be carefully observed and supportive treatment given if necessary. Usually on the second or third day the patient may be up on a back rest for brief intervals during the day.

Some patients develop signs of intoxication on the third or fourth day, due to absorption of bacteria and their products. This is indicated by dry tongue, rapid pulse rate, increase in temperature and sometimes by hiccough. The patient is in a more or less serious state and every effort must be made to bridge him over this period. Hot packs are helpful in increasing the output of toxic substances by the skin, fluids are necessary to dilute the toxic substances circulating in the blood stream, and to increase renal activity. Theobromin salicylate may be helpful both as a renal and cardiac stimulant. Symptoms must be met as they arise; the essential thing is to interpret them correctly.

During the second week the suprapubic drainage tube may be removed and bladder instillation or irrigations begun as conditions indicate; for example, if there is a marked amount of phosphatic deposit and purulent urine, irrigations through a catheter permitting the fluid to emerge from the suprapubic wound will usually improve the condition rapidly. It is well to continue irrigations with dilute solution of potassium permanganate (1:5000) until the suprapubic wound is entirely closed.

Sounds passed at intervals of three to four days at this period will overcome any tendency to constriction at the neck of the bladder. Later it is well to continue the passage of sounds for several months at increasingly longer intervals.

Thus with careful attention to the minutiae of diagnosis, preparation, operative technic and intelligent post-operative care, the mortality of prostatectomy may be reduced to a reasonable limit. The surgeon should bear in mind that his patient is an old man and that he does not have the "reserve" possessed by younger individuals. It is, therefore, certain that the mortality rate for prostatectomy, though it can be brought down to reasonable figures, will remain higher than operative procedures of similar importance and danger, usually applied in young patients.

#### SUMMARY

1. Adhere to genuine indications for operation.
  2. Make precise diagnosis of the position and character of the obstruction and determine the presence of local complicating pathologic conditions.
  3. Get the patients in the best possible physical condition before operation.
  4. Carefully open the bladder, carefully control the hemorrhage and close the bladder accurately.
  5. Provide intelligent but not fussy after-treatment.
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#### THE X-RAY IN THE DIAGNOSIS OF CERTAIN GASTRO-ENTERIC LESIONS\*

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In order to discuss intelligently the uses of the x-ray in the diagnosis of gastric lesions, it is necessary to include in the discussion lesions of the gall bladder and duodenum. The stomach and the first portion of the duodenum are practically an entity from a physiological standpoint, their chemistry and their functions being almost identical. Clinically, diseases of the gall bladder, duodenum and stomach are so inter-related that their separation is impractical.

*Technique.* Briefly stated, the technic employed for the examination is this: The patient

\*Read before the Peoria City Medical Society.



presents himself in the morning, having taken neither food nor drink since dinner the preceding evening. After a brief fluoroscopic inspection of the chest and abdomen, and after plates of the gall bladder region have been made, he is given a barium meal in three glasses. The first contains barium and water—the so-called “sedimentation mixture,” which is useful in slit-like ulcers, as these are often coated with the rapidly precipitating barium. The second glass is barium in hot malted milk. This is a palatable mixture, and the hot milk reproduces somewhat the normal condition of an actual breakfast. The third glass is barium and buttermilk. (This technique was devised by Case, of Battle Creek.) After fluoroscopic study in the upright and horizontal positions, a number of plates are made, and the patient is directed to return in  $4\frac{1}{2}$  hours. At this time the stomach should be empty, and the head of the barium column should have reached the cecum. The patient is re-examined at  $8\frac{1}{2}$ , 26, and 50 hours, after which last examination a barium enema is administered, under fluoroscopic control, plates are made, and the examination terminated. Although patient and physician often become impatient during the three days required to carry out this procedure, it is difficult to over-estimate the importance of making a complete survey of the gastro-intestinal canal. You are all perfectly familiar with the frequency with which appendiceal symptoms are referred to the stomach. Not only the appendix, but lesions of the terminal ileum, or of any part of the colon may give rise to equally confusing symptoms, which can be cleared up by a careful study of the entire tract.

*The Normal Stomach.* Before proceeding with the consideration of the pathological stomach, let us study for a moment the normal stomach, its size, shape, position, tonus, motility, mobility and anatomical features, as portrayed on the fluorescent screen or the roentgen plate. It will be seen at once that it is not the stomach of the textbooks or the autopsy room. Its size depends upon its contents. The stomach is always full. Above the level of the fluid content is seen the bubble of air called the “magenblase,” or, since the war, more popularly rendered as *poche d'air*. I see no reason why it should not be called simply an air bubble, which it is. When we find a stomach half filled by air, inquiry always

elicits the information that the patient has “lots of gas on the stomach,” and that he (more often she) is obliged to belch frequently, and often unavailingly, to rid the stomach of it. We then hold a mirror in front of the screen and invite the patient to belch, first showing him the air bubble. Of course his attempts at belching only add more air, until the distended stomach finally expels it. This little object lesson often cures the patient of that horrible disease, *aerophagy*. With the single exception of carcinoma of the pylorus, the stomach, of course, contains no gas other than the swallowed air.

The shape of the stomach depends upon the tone and its position, but there are two general types, sometimes called the *steer-horn* and the *J-shaped* stomachs. These terms have no especial significance, and the characteristics of the two types may be readily seen from the accompanying figure. It is interesting to note that, according to Carman, ulcer does not occur in the *steer-horn* type as often as the *J-shaped* stomach.

The position of the stomach depends upon the *habitus* of its owner, its tone, and the condition of the abdominal wall. Three distinct types of *habitus* are described—the normal, the broad, and the *aesthetic*.

The normal is represented in a well-developed person of moderate height and weight, in short, an average man or woman. The broad, or *apoplectic* type, displays a short, muscular chest, ribs running almost horizontally, short, thick abdomen, and an obtuse epigastric angle. In such a person the stomach is comparatively short, and lies well up in the left upper quadrant. The *aesthetic* or *neurotic* type is seen in persons who are tall and thin, long thorax, poorly developed musculature, and a small amount of abdominal fat. The stomach in these individuals is long, vertically placed, and frequently resting on the pelvic floor. These are the cases rashly diagnosed as *ptosis*, and condemned to wear belts and corsets, which appliances, when put on under fluoroscopic control, are almost invariably seen to displace the stomach still more downward instead of lifting it up. To say that a stomach is a *ptosed* stomach implies that one knows where the stomach should be, and I assure you that the more stomachs one sees, the more one hesitates to say that any given stomach is displaced. It is my conviction that a stomach belongs where its

owner wears it, provided only that it is capable of its physiological function.

The stomach is divided anatomically into the pars cardiaca, the pars media, the antrum or pars pylorica, and the pylorus. Immediately above the pylorus is seen the smooth, triangular, first portion or bulb of the duodenum, sometimes called the "cap." There are two incisura to be seen in the normal stomach; the incisura cardiaca and the incisura angularis.

The normal stomach is freely movable, except at its cardiac end. With the meal described it should empty itself in less than  $4\frac{1}{2}$  hours. A delay of more than 6 hours is significant. Normally, the peristaltic waves begin in the cardiac portion, passing down to and terminating at the pylorus. Two waves are usually seen at once, although three or four may be present. Peristaltic action is increased by the horizontal position. A complete cycle occupies about 22 seconds, according to Kaestle.

The so-called hour glass stomach is one found in cases of gastric ulcer and gastric carcinoma. The surgeon, accustomed to thinking of hour glass stomach as a permanent organic biloculation, sometimes finds at operation no such condition to be present, although the roentgen report called attention to its presence. An hour-glass stomach as seen in an x-ray examination, is one constructed or segmented so as to form two distinct sacs, connected by a canal which is usually seen near the lesser curvature; though in hour-glass due to carcinoma it is often centrally located. This condition may result from spasm of the circular fibers, the result of either a gastric ulcer or carcinoma, or of extrinsic causes; from organic deformity or from pressure from without. Spasm from an intra-gastric lesion is persistent and continuous; the lesion itself may be seen; the spasm does not relax after the administration of antispasmodics, and is present at subsequent examinations. That, due to organic lesions, is persistent, unvarying in appearance, usually corresponds to a palpable mass and its borders are shaded rather than sharply defined. Spasm due to extra-gastric causes disappears after administration of belladonna to effect.

*Gastric Carcinoma.* According to Carmen and Miller of the Mayo Clinic, the x-rays take precedence over all other methods in the detection of carcinoma of the stomach. At the Mayo Clinic,

95 per cent. of gastric cancers have given distinct roentgenologic signs of their presence, a percentage not approached by any other method of examination. There are three general types of carcinoma involving the stomach, the fungous, the scirrhus and the mucoid types. The mucoid type is a degenerative process and may occur in either of the above types. Fungous carcinoma is a proliferative type, composed almost entirely of epitheloid tissue, containing little fibrous tissue, and therefore soft and spongy. The scirrhus type is an infiltrative form invading the gastric wall with less projection into the lumen of the stomach, and leaving a more regular contour. Being composed largely of intestinal tissue, it is a hard tumor. It is this type that usually forms the annular carcinoma of the pylorus.

Among the various roentgen signs of cancer of the stomach, the first and most important is the filling defect, which, indeed, is almost indispensable to a positive diagnosis. The true filling defect is permanent, unvarying in appearance, and no peristaltic wave is seen passing over it. Careful and painstaking fluoroscopic examination is imperative. The cardiac end of the stomach must be examined with particular care; it is not an uncommon location for cancer, and is easily overlooked in the ordinary examination. Examination in the horizontal position is imperative. Filling defects may occur from other causes than carcinoma, but with the exception of those occurring in cases of benign tumor of the stomach, they can be differentiated. The presence of a hair ball in the stomach produces a defect, but it does not greatly resemble that of carcinoma, and its location can be changed by manual displacement of the hair ball. The defects due to pressure by the spine or the colon are usually recognized as such. An opaque enema will clear up any difficulty caused by colonic pressure; the defect caused by the pressure of the spine disappears with a change of position. Defects caused by the pressure of extrinsic tumor, a tumor of the left kidney for example, are sometimes confusing. The stomach generally remains movable, however, its motility is not disturbed and the peristaltic waves pass through the apparent defect. In case of serious doubt the creation of an artificial pneumo-peritoneum will clear up the case. Syphilis of the stomach will frequently produce a defect almost exactly

resembling that of scirrhus carcinoma. An exact differential diagnosis is impossible without a complete clinical survey of the case. Spasm can, of course, produce a filling defect. An unusual cause of filling defect simulating carcinoma has recently come to my attention. It occurred in the pyloric portion of the stomach of a man with a long-standing paraplegia. It did not relax under the administration of atropine to its full effect. Fortunately, the man had no symptoms nor clinical findings which might be attributed to carcinoma. The cause of the spasm responsible for the defect is probably an ascending irritation of the cord accompanying the descending degeneration. The differentiation of other forms of spasm has already been discussed.

Second in importance, as a roentgen sign of carcinoma, is any alteration in the function of the pylorus. Obstruction is commonly accompanied by a visible defect in the pyloric portion of the stomach. The thin strand of barium passing through the stenosed opening will be seen at some time during the course of the examination. Gaping of the pylorus is seen at times with a scirrhus carcinoma involving the pylorus. Such a stomach empties itself in a few minutes, the barium passing through the rigid pylorus in a wide stream. This condition may result from either infiltration of the pyloric ring, or from interference with the pylorus closing reflex by a growth higher in the stomach. With an obstructing growth at the pylorus, a residue may remain in the stomach as long as 24 hours, or occasionally longer.

Absence, or disturbance of the peristaltic wave is a significant occurrence. Peristalsis may be entirely absent, the stomach appearing as a relaxed, pendulous sac; antiperistalsis may rarely be observed, particularly in cases of pyloric lesion; greatly exaggerated peristalsis is sometimes, though not commonly, seen in a stomach with an obstructed pylorus. More important, and more frequently encountered, is the tendency of the peristaltic wave to disappear on reaching an era of induration, reappearing beyond it and continuing to the pylorus. The condition is common to both carcinoma and indurated ulcer.

The mobility of the stomach is of some importance, as is its degree of flexibility under the palpating finger.

The roentgenologist is in a position to furnish

very important data regarding the operability of a given lesion. Aside from the primary question of the ability of the operating surgeon, operability depends largely upon the location, extent and character of the growth, the presence or absence of metastases. The presence of the latter in the bones, the colon, or in the chest may be determined by means of the x-ray in most cases. Growths in the pars cardiaca or upper pars media are not resectable, while those in the lower media and pyloric portion are often resectable. Also, operability depends obviously upon the amount of involvement, and upon this point the roentgenologist may speak with confidence. The limits of a fungous growth conform closely to those indicated in the radiograph; those of scirrhus carcinoma are less sharply defined, and a liberal allowance must be made for an excess of involvement beyond the apparent limits. If information regarding the operability of a given case were the only assistance that the roentgenologist could offer the surgeon, it would well repay the surgeon to utilize this method for that assistance alone.

*Gastric Ulcer:* A very high percentage of gastric ulcers, given by several authorities as high as 90 per cent. give rise to x-ray manifestations which are either pathognomonic or highly presumptive of ulcers. Four classes of ulcers are encountered:

- (a) The small, very shallow erosion, or slit-like ulcer,
- (b) Penetrating and indurated ulcers, with relatively deep craters,
- (c) Perforating ulcers,
- (d) Carcinomatous ulcers.

Carcinomatous ulcers cannot be differentiated from other ulcers by roentgen methods; indeed, it is often with the greatest difficulty that they are distinguished by the pathologist. Those ulcers occurring in middle-aged people, and having very wide bases, should be regarded with suspicion.

The roentgen signs of the first three classes of ulcer may be divided into two groups; the direct, or pathognomonic signs, and the indirect or presumptive manifestations. The first group is composed of the niche, and the accessory pocket. An incisura is frequently seen opposite the niche. The second group of indirect signs includes the incisura, spasmodic hour glass, diffuse gastro spasm, retention of barium meal, alteration of



peristalsis, localized tenderness or pain point and lessened motility of the stomach.

The niche, one of the two pathognomonic signs of ulcer, is the visualized crater of an ulcer, the cavity of which lies within the wall of the stomach; usually crescentic but at times irregular. These ulcers occur most frequently on the lesser curvature; when they are located on the posterior surface an oblique position is necessary for their demonstration. Such ulcer may be demonstrated, even when the crater is very shallow.

The accessory pocket, the second pathognomonic sign of ulcer, is the result of the perforation of an ulcer, and the formation of a cavity connected with the stomach, in or about adjoining structures. Ulcers placed high on the lesser curvature are apt to perforate into or against the liver. These accessory pockets move with respiration; those perforating into the pancreas, as it happens when the ulcer is in the lower pars media or the pars pylorica, do not move. The barium filled pocket shows a fluid level surmounted by an air bubble similar to that seen in the stomach. It often remains filled when the gastric contents have settled to the lower pole of the stomach, or even after the stomach is empty, a fact which serves to distinguish it from a niche. The canal connecting it with the stomach is sometimes seen; often it is not visualized. These pockets are often very large, sometimes measuring 5 or 6 cm. in diameter. They are usually immovable on palpitation, being involved in numerous adhesions. A true diverticulum of the stomach would be differentiated from an accessory pocket with great difficulty, but fortunately is a very rare condition.

The secondary, or indirect, manifestations of ulcer, include certain spastic phenomena such as incisura, spastic hour glass stomach, and diffuse gastro spasm; organic hour glass stomach, hypotonic condition of stomach, alterations in the peristaltic wave, gastric residue after  $4\frac{1}{2}$  hours, localized areas of tenderness, and a lessened motility of the stomach.

The incisura is one of the most useful of these signs, but unhappily it occurs in a relatively small percentage of cases. It is an indrawing of the circular fibers of the gastric musculature, and occurs in the same plane as the ulcer. It is seen on the greater curvature of the stomach, usually in the vertical portion. It is perfectly

stationary, which distinguishes it at once from a deep peristaltic wave. It must be differentiated from the two normal incisura, namely, the incisura cardiaca and the incisura angularis; with these the roentgenologist should be perfectly familiar, and they should present no difficulty. Incisura caused by adhesion bands give rise to more serious difficulty; indeed, their differentiation from an incisura is almost, if not quite, impossible. The history and other clinical findings, indicating perhaps the presence of some other inflammatory process, will be the principal guide to the conclusion that a given defect is the result of adhesions, rather than of an incisura. Spasm from extrinsic causes and its differentiation has already been discussed in the section devoted to carcinoma. Diffuse gastro spasm will relax under the administration of belladonna to its physiological effect.

Organic hour glass due to ulcer, and that due to carcinoma, cannot be positively differentiated by roentgen methods. We are assisted by the fact that in an hour glass stomach due to ulcer, the canal connecting the two sacs is located near the lesser curvature, while that due to carcinoma is more commonly centrally located.

A residue in the stomach after  $4\frac{1}{2}$  hours is suggestive of some pathology, not necessarily an ulcer. It may be the result of one of two general causes: 1, actual obstruction by the induration resulting from an ulcer at the pylorus, or in the duodenum; or from 2 pylorospasm. Pyloro-spasm may in turn be caused by (a) an ulcer at or above the pyloric ring; (b) hyperacidity, or (c) extrinsic causes, as pancreatic carcinoma. The last-named condition may be accompanied by a residue at 24 or even 48 hours. To be of diagnostic value, the residue must be considered in conjunction with other findings; although it does not suffice for a diagnosis.

Alterations in the tone of the stomach are not very important. Hypo-tonus, for example, is an expected finding in persons of the asthenic habitus, but occurring in a person of normal or broad habitus, it is mildly suggestive of ulcer. In connection with other signs it has a contributory value; alone it means nothing.

Among the secondary signs of ulcer, one of the most useful is a variation of the peristaltic wave. Even though the crater of an ulcer be very shallow, it is surrounded by a certain



amount of induration, and it is this induration which disturbs the wave. Upon reaching such an area, the peristaltic wave is submerged, reappearing on the other side of the induration. By superimposing several plates, the waves may be visualized, and the affected area localized. Sometimes the making of multiple exposures on one plate is of assistance. In this way, several waves are seen at once, with the indurated area unchanged by their passage. Anti-peristalsis is not pathognomonic of ulcer, but indicates a gastric lesion. It is quite rare. Hyperperistalsis is more suggestive of duodenal than of gastric ulcer.

Points of localized tenderness do not afford much assistance. Occurring over a niche, or an indurated area, they are confirmative. Lessened motility of the stomach is also of minor importance. It may, of course, result from any perigastric inflammation. To be of value at all, it must be a local lessening of motility, and not apparent lessening of the general motility of the stomach.

The secondary or indirect signs of ulcer must be considered in groups to be of diagnostic value. For example, a gastric residue and an incisura form a complex which, while not pathognomonic of ulcer, certainly point to the probability of its presence. Taken in conjunction with the history and physical findings, such a complex may be the data needed to confirm the clinical diagnosis of ulcer, and, moreover, in an eagerness to find the pathology which is suspected, we must not overlook the fact that diagnosis is largely a matter of elimination, and that a negative report may be of great value to the clinician.

Disease of the gallbladder, with or without stones, gives more or less characteristic roentgen evidence in a certain percentage of cases. A negative x-ray report must not be taken too seriously, as probably as much as 50 per cent. of gall bladder lesions give no characteristic findings. Gallstones are demonstrated in perhaps 40 to 50 per cent. of the cases when present. They may be shown only when more dense than the surrounding media and tissues, although their presence has been inferred in a few cases in which the density of the stones was much less than that of their environment. In such cases they appear as areas of greater permeability to

the ray. Stones composed entirely of calcium salts may invariably be shown; unfortunately they are in the minority. Those composed entirely of cholestrin cannot be demonstrated. The mixed type of stone, namely that composed of cholestrin, bilirubin and calcium salts, is the most common, and its density varies directly with the amount of calcium salt present. The size and number of stones present influences in some degree their demonstrability. Very large stones, and great numbers of smaller stones, even though of a very low density, may at times be demonstrated. The amount of bile present influences the demonstration of stones, as bile has a very high absorption power for the x-rays.

Fortunately, however, the diagnosis of gall bladder disease does not depend upon the finding of gall stones. The principal factor from the surgical standpoint is the presence or absence of cholecystitis; it, rather than the gallstones, being the condition that menaces the patient. It is generally held that a gall bladder which casts a shadow on a roentgen plate is a diseased gall bladder, and in general this accords with our experience. That there are a few exceptions to this general truth merely serves to emphasize the fact that x-ray diagnoses are not machine made and that skill, judgment and experience are vital to success. We may say that, in general, a visualized gall bladder is pathognomonic of gall bladder disease. Such a finding is usually confirmed by a second group of equally important findings, that is deformity of the duodenal bulb, and its involvement in adhesions. The bulbar deformity resulting from a peri-cholecystitis is differentiated from that of ulcer by the fact that it is an inconstant deformity. Moreover, the bulb often shows the effect of direct pressure of the enlarged and distended vesicle space, a smooth, regular hollowing out of the bulb which is quite characteristic. Finally, the clinical diagnosis of gall bladder disease is aided by the roentgen report of normal stomach and duodenum, thus removing them as factors in the production of the clinical picture.

*Duodenal Ulcer:* Ulcer of the duodenum is much more common than gastric ulcer, the proportion being about 4 to 1. Ninety per cent. of all duodenal ulcers occur in the bulb, or first portion, and on the anterior wall. A high percent-

age are either penetrating or perforating. Normally the bulb is seen immediately above the pyloric sulcus, and presents a smooth, unbroken contour, triangular in outline.

There are two classes of roentgen signs of ulcer: the direct and indirect. The direct consists of constant and unvarying deformity of the bulb. Practically without exception, such a deformity means ulcer. It is caused by (a) organic distortion by the resultant scar tissue. Such a type is well represented by the so-called "fleur de lis" ulcer; (b) by organic distortion and spasm; (c) by spasm caused by a small ulcer without sufficient scar tissue to deform the bulb originally. One of the common types of deformity, and one of the easiest to overlook, is that occurring in the basal border. As in ulcer of the stomach, we may observe the incisura (a common spastic cause of deformity), the niche, and the accessory pocket. In fact, the two last should be more commonly observed with duodenal ulcer than with gastric ulcer, as the former is more often of the penetrating or perforating type. The extent of the deformity is not important; the diagnostic feature lies in its constancy. A poorly filled bulb is sometimes confusing. A careful comparison of plates with a painstaking fluoroscopic examination will serve to differentiate. A normal bulb will be seen at some time during the examination if no lesion is present. Deformity of the bulb, due to gall bladder disease, must be differentiated from that due to ulcer. As pointed out above, the deformity due to cholecystitis is an inconstant deformity, while the distinguishing characteristic of duodenal ulcer is the unvarying appearance of the bulb. Carcinoma of the duodenum is so rare that it need not enter into our calculations. Theoretically at least, extrinsic causes may set up a spasm of the bulb which would simulate ulcer, but practically this does not occur.

The secondary or indirect manifestations of duodenal ulcer are: alteration in the gastric tone, motility and peristalsis. Hypertonus, hypermotility and hyper-peristalsis have long been considered as being strongly indicative of duodenal ulcer. Hypertonus may result from the effort of the stomach to overcome a beginning stenosis in the duodenum, or it may occur simply as a reflex. It is a very common accompaniment of ulcer of the duodenum. In old cases, hypo-

tonicity may result from the failure of compensation in the gastric musculature.

Hyper-peristalsis of the stomach occurs in a high percentage of cases. Its chief characteristic is the number of waves visible at a time, rather than the violence of the waves. Three or four waves may be present at the same time.

Hyper-motility is common in gastric achylia, diarrhea, and gastric carcinoma. In the absence of these conditions, its presence points to, but is not diagnostic of, duodenal ulcer.

The above-mentioned indirect signs are of some value; indeed, prior to the recognition of bulbar deformity they were the cardinal signs of ulcer, and a very creditable percentage of correct diagnoses was made on such findings. It scarcely seems possible, however, that a duodenal ulcer capable of producing these manifestations could be present without producing a bulbar deformity and it is from this finding that we should draw our conclusions of ulcer.

#### CONCLUSION

Throughout this paper I have used the word "diagnosis" as applied to x-ray method somewhat empirically. One should really say "x-ray findings," and I do not wish to leave with you the impression that I advocate the making of diagnoses by the roentgenologist. On the contrary, I am convinced that this is a function appertaining entirely to the clinician who, with all of the clinical and laboratory findings before him, is in a position of vantage which no worker in a special field can hope to occupy. One often encounters a tendency to regard the x-ray findings as a diagnosis; to regard the roentgen laboratory as a place where complete diagnoses are miraculously produced. This is a conception which must be discouraged. The findings of the roentgenologist, provided that he be of sufficient skill and experience, are a valuable, often invaluable, adjunct to the clinical findings, but in the final analysis it is the clinician who, having weighed all the evidence, accepts the responsibility of the diagnosis and prognosis, and it is the clinician who must learn to view the roentgenologists' report in its true light of specialized information on certain phases of the case. Thus will he aid in the advancement of medical science and prevent a great art from falling into disrepute.

## VOMITING OF GALL STONES\*

MATHER PFEIFFENBERGER, M.D.

ALTON, ILL.

A recent search of the literature has disclosed the rarity of vomiting of gall stones as such, so that a report of a personal case with discussion of the subject is not without clinical interest.

The older literature even as far back as the time of Hippocrates and Galen describes numerous cases in which stones have been found at stool. Although these writers recognized a distant connection between the appearance of icterus and stones in the stool, there was no mention of concretions in the gall bladder. Today, gall stones in stools are recognized as one of the common diagnostic aids, but a careful study of the literature failed in the majority of cases to even mention the presence of gall stones in vomitus or even in the stomach contents although the presence of bile and bile stained food is a very common occurrence. In 1742 Gottfried Miller observed a perforating abscess of the gall bladder that had burrowed into the stomach and later through the abdominal wall, but no mention is made of there being any vomiting of stones in the account as reported in "Nothnagel's Practice." This probably represents the first case on record in which there is a possibility of such an occurrence. During the 19th century cases were reported by Petit, Fauconne-Dufrense and others where the vomiting of stones was observed. Another group of cases as described by Cruveilhier, Oppolzer, Freichs, Murchinson, Jefferson and Moynihan has as a basis a fistulous communication between the gall bladder and the stomach which accounted for the presence of stones. Recent literature seemed to have overlooked this feature. It is probable, however, that since more knowledge of the underlying pathology, more accurate and quicker diagnosis as well as treatment either medical or surgical has brought about relief before the stone could have progressed so far as to cause ulceration or even regurgitation through the duodenum.

In view of the hundreds of stomach analyses that are daily made upon gastric and gall bladder patients as well as the vomitus of other cases, the conclusions seemed justified that: 1. Stones

are rarely to be encountered. 2. In recent years fewer cases are seen due to more prompt attention.

At the time that this case was under consideration a questionnaire was sent to the surgeons throughout this country doing gall bladder work. Dr. J. B. Murphy replied that he had only observed one case which at operation was found to have been the result of coming from the sinus between the gall bladder and stomach. Several smaller stones were encapsulated and one had broken loose. He considered it very rare indeed.

Dr. W. J. Mayo stated "that in 3,700 cases several had had reported having vomited stones. It was very rare indeed." In one case we recall upon which we operated for removal of stones in the common duct, during the operation some of the stones were forced through into the duodenum and the patient vomited them during the operation."

Drs. Eisendrath and Ochsner of Chicago, as well as Dr. Robert T. Morris of New York, have never seen a case.

Answers from others were of the opinion that it was very rare.

Clinically there is nothing that would distinguish these cases from the usual gall stone attack, the signs and symptoms being the same, so that the finding of stones is probably accidental.

The mechanism by which the stones reach the mouth is dependent upon mechanical factors and pathological changes in the gall bladder and adjacent organs and can roughly be divided into two classes.

1. Those where the passage of the stone has been from the gall bladder down the ducts into the duodenum and pylorus. The mechanism in this case is due probably to reflex irritation in the region of the gall bladder incident to the passage of the stone out into the ducts, and that the vomiting previous to discharge of the stones into the duodenum so dislodges it from the ampulla that its exit into the duodenum is easy and it is swept by a retroperistaltic movement back into the stomach.

The following case is an example of this type of vomiting.

Mrs. S., aged 40, was seen on July 3, 1910, at which time she complained of nausea and "feeling of distress" in the epigastric region. There was no rise in pulse rate or temperature. Palpation over

\*Read at 47th Annual Meeting, Southern Illinois Medical Association, Belleville, Ill., Nov. 3-4, 1921.

gastric and hepatic region elicited no tenderness. The patient had been constipated for several days. There was a previous history of three attacks of similar nature occurring about three weeks apart and about four months prior to onset of present illness.

F. H. Negative as regards cancer, tuberculosis, etc.

Past History. Usual diseases of childhood. At six years of age fell and sustained an injury to the left hip which resulted in ankylosis of that member which made it difficult for her to take much active exercise and so predisposed her to sedentary life. Otherwise negative.

Treatment. She was given one grain of mild mercurous chloride every hour for three doses on the evening of July 3. Early the next morning, July 4, the nausea became very distressing and the patient vomited with considerable retching and discomfort 6 to 8 ounces of mucous and gastric juice, after which she took a glass of champagne to relieve distress. About twenty minutes after taking the champagne she vomited (in my presence) a drachm or more of what looked to be pure bile and a small dark substance which made an audible click when it struck the sides of the vessel. On closer examination of the object it was found to be a gall stone of the cholesterolin and bilirubin calcium variety, with two facets upon it. Following the expulsion of the stone and the bile the patient seemed to obtain immediate relief and did not vomit again. On deep palpation I could now find some tenderness over the gall bladder area. Prior to the onset of this vomiting cholelithiasis was suspected and operation urged, but the patient would never consent. The finding of the stone and recent memory of past trouble were all that were needed to gain the patient's immediate cooperation.

Operation. July 6 the gall bladder was exposed through a right rectus incision and found irregular in shape, of normal size, with the walls having the usual pathological indications of cholelithiasis. The appendix was found to be held down with a few adhesions which were separated and the organ removed by the usual method of crushing and invaginating the stump with purse string suture. The area around the gall bladder was walled off with gauze and the organ incised at the fundus, allowing the escape of a small quantity of bile and seven medium sized stones, ranging in size from a grain of wheat to a hazel nut, then one large stone the size of a large Brazil nut was removed with a spoon curette, the gall bladder thoroughly sponged out and the cystic, common and hepatic ducts palpated, but no stones felt. The packing was removed and the gall bladder drained with a rubber tube placed in the fundus and fixed by purse string suture to the parietal peritoneum, the wound closed by tier suture, and the patient dressed and placed in bed.

Postoperative history uneventful. Patient leaving hospital on twelfth day.

2. Those where the vomiting of gall stones is

secondary to pathological alterations, namely, the formation of a fistulous tract or opening between the gall bladder and stomach with later erosion of the walls, discharge into the stomach and consequent vomiting with rest of stomach contents.

In conclusion.

1. Vomiting of gall stones is exceedingly rare.

2. The mechanism consists of two varieties:

(a) Due to mechanical and physiological causes.

(b) Changes as in cases where a pathological fistula has been formed between the stomach and gall bladder.

Times Building.

# IT IS BOUND TO OCCUR IF THE GOVERNMENT IN WASHINGTON IS TURNED TO A BENEVOLENT DESPOTISM

THEIR VIEW IS NARROW

In championing and approving the proposed Fess-Capper educational bill, the American Physical Education association is considering the possible immediate benefits to the particular enterprise in which its members are interested. The association wants the bill passed because it thinks the general physical development of American men will be furthered. But its members lose sight of, or ignore the very grave menace that lurks in the provisions of the bill. Though sugar-coated and camouflaged, it is none the less a flier in federal paternalism; and the more or less natural comparison made between it and the federal good roads act and some recent agricultural legislation, does not alter this fact. These other enactments also are paternalistic, and they are meritorious only because their good features seem on the whole to outweigh their drawbacks, a thing that is decidedly not true of the Fess-Capper bill which is essentially a fad rather than an effort to remedy an evil or meet a desperate need.

The American Physical Education association spokesmen draw a lurid and not excessively convincing picture of the fearful things that are to happen to the young men of this country within the next ten years unless something drastically corrective of the present lack of physical training is done right away. *But what about the injury to the political independence, the moral stamina and the free Americanism that is bound to occur if the government in Washington is turned into a benevolent despotism which tells the people how to eat, sleep, exercise and even how to marry?* The need today is not for extension of the administrative and advisory powers of the federal government, but for a movement that will function as a general legislative astringent.—*Detroit Free Press, May 5, 1922.*



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JULY, 1922

## Editorial

### RESOLUTIONS PASSED BY THE ILLINOIS STATE MEDICAL SOCIETY

Many resolutions of far reaching import were passed by the Illinois State Medical Society at its annual meeting in Chicago in May. These resolutions appear in the precedings in the House of Delegates, published elsewhere in this issue. Several of these resolutions carried with them instructions to the effect that the Illinois delegates to the American Medical Association at St. Louis introduce these resolutions in the House of Delegates at the A. M. A. and to use every honorable means to secure their adoption by the House of Delegates by the National organization. All the resolutions carrying this provision were introduced at the A. M. A. meeting at St. Louis and all were passed as originally presented or in modified form. In this connection we mention a resolution condemning the Sheppard-Towner Bill, a resolution giving a definition of State Medicine; a resolution asking for a congressional investigation of the narcotic problem, and endorsing the resolution of Congressman Volk, the propounder of resolution of 258 providing for a select committee of fifteen

to inquire into the subject of narcotic conditions in the United States. The personnel of this committee to include all doctors who are now members of the House of Representatives.

### MEDICAL BUREAUCRACY A FAILURE

In the report of the special committee of the United States Senate on the care of sick and disabled former soldiers several facts are recorded with expressions of profound regret. These facts had become painfully familiar to the public before the issuance of this report. Disabled veterans, the senatorial investigation now points out, have been treated shabbily and callously by bureaucratic martinets. Up to this time only about 5000 former soldiers have been rehabilitated, although 388,000 have applied for training. Sick and unfortunate veterans have died while well-fed officials wrangled about the rate of compensation to be awarded them. At no time have sufficient hospital facilities been available for men in absolute need of medical care and nursing.

The senate committee submits ten definite recommendations for the purpose of correcting without further undue delay the deplorable conditions it describes. The most important suggestion is

that additional hospital facilities be provided, these to cost \$16,400,000. Consolidation of service and the elimination of red tape are among the other major recommendations.

Surely it is high time that the lessons of bureaucratic neglect and inefficiency in this essential branch of the government service were taken to heart. Henceforth, sympathy and human intelligence should characterize all proper efforts to cure, or rehabilitate or train for vocations and professions the men to whom the Nation owes a debt of honor.

Bureaucracy is a curse wherever inaugurated; in the management of medical affairs it is fatal. The above should be sufficient warning to the Soviet government and State Medicine bugs who are attempting to engulf the medical profession in a bureaucracy located at Washington.

#### OSTEOPATHS ATTACK MEDICAL PRACTICE ACT OF ILLINOIS

The Medical Practice Act of 1899, which the supreme court on February 22, 1922, held unconstitutional, is being attacked again. This time by the Osteopaths through their attorneys, McCormick, Kirkland, Patterson and Fleming, the same firm of attorneys that represented the Chiropractors. The reason for this latest attempt to destroy the law under which Illinois attempted to restrain the unqualified in their desire to get at the public's pocketbook is that an Osteopath named Schaeffer was prosecuted for doing a surgical operation without the required license.

The facts are not disputed, in reality more is admitted than was charged.

Schaeffer sets up the novel claim that his education is at least as good as that required of those who are given unlimited privilege in the treatment of the sick in Illinois, therefore he should, on his confession of competent knowledge, be granted the same license as regular physicians.

Schaeffer's educational qualifications as listed by himself, consist of a High School diploma from Wycoff, Minnesota. Upon completion of his high school course, he attended the Leander-Clark College at Toledo, Ohio, where he took a two years' course and obtained the degree of Bachelor of Arts.

According to the sworn statement of Dr. George A. Still, of Kirksville, Missouri, Schaeffer

graduated from the American School of Osteopathy, January 29, 1915, having entered January 29, 1912.

In the statement of the case to the supreme court the following appears: "In the course of his study, Schaeffer had a large amount of training in the use of the particular instruments which he used in treating Mrs. M——." The "Immediate Facts" as stated are: "It is not disputed that appellant, Robert E. Schaeffer, a licensed osteopath, performed an act which constitutes operative surgery. Consequently, the evidence which shows this act to have been performed will be passed over very summarily. In the latter part of February, or the early part of March, 1921, Schaeffer treated a Mrs. Blanche M—— for a uterine hemorrhage. In the work which he performed on Mrs. M——, Schaeffer used a vaginal speculum, a vaginal bracing forcep, a curet and an electric light. He removed a couple of blood clots out of the cervix inside of the uterus, but did not perform a complete curetment." (Rec. 46, Abst. 15.)

Schaeffer directed the attending nurse to cleanse the external parts and the parturient canal with antiseptic. (Rec. 47, Abst. 15.)

"There being no dispute over these facts, the case is therefore reduced to the legal issue of whether or not a licensed osteopath has the right to perform the acts which the evidence shows were performed."

In the "Argument" the attorneys on page 43, says: "We believe that the time is opportune, now that the discriminatory act of 1917 has been held invalid, that the even more discriminatory act of 1899 be held unconstitutional and that the legislature of this state be advised by judicial decision that hereafter all legislation regulating the practice of medicine must, to be valid, have a scientific basis and must be free from the defect of discrimination in favor of the drug schools of healing."

We wish to say that if the last five words of this quotation, namely, "the drug schools of healing" be stricken out, and the one word "ANYBODY" be substituted, the controversy over a medical practice act for Illinois will end in a way that will be a GODSEND to the people of this commonwealth. The whole cult family lives on discrimination in their favor on clearly unconstitutional special class privilege. The next Medi-

cal Practice Act for Illinois should be free from all discrimination."

LEGISLATIVE COMMITTEE,  
Illinois State Medical Society.

NOTE—We sincerely hope that the law of 1899 will be more ably defended by the office of the attorney general than apparently was that of the law of 1917 recently attacked by the Chiropractors and held unconstitutional by the supreme court. Those of us who have watched the proceedings in the attack of the law of 1917 cannot help but think that the constitutionality of the Act was poorly defended—that even after the court had held the law unconstitutional a rehearing of the case should have been asked for. This we suggested several times but the request was not heeded.

In case the law of 1899 is knocked out because of improper or insufficient defense some one will have to do a lot of apologizing to the people of Illinois.

### DENTAL CLINICS A MENACE OR A BLESSING, WHICH?

Community dental service for juveniles appears to be the latest trick step in the forward march for the socializers of the public health.

Following the "Rochester plan" as this "welfare work" is done in Rochester, N. Y., and pursuing the scope of the "Forsyth Laboratory" in Boston, a movement is on foot to map out similar campaigns throughout the United States. Chicago is the present target. It is understood that in Chicago a great free dental clinic similar to the Forsyth Laboratory will be put up within a year. In fact, it is said that the ground will be broken for this institution early in the autumn, or sooner if a site can be secured. As "tonsil and adenoid work" is included in the dental programme it behooves the nose and throat men to inform themselves of the situation as proposed.

Julius Rosenwald, one of Chicago's wealthiest merchants, and who made his money from the gigantic mail-order business of Sears, Roebuck & Co., has been a Good Samaritan for about ten years to dental clinics maintained in Chicago to aid school children. This spring Mr. Rosenwald issued a book of 121 pages, recommending community dental service for the dental needs of Chicago's 600,000 school children.

Like the plans for the new State University

hospital, here is another straw to show the way in which the wind blows. Here has been mixed for the dentist a dose similar to those that the doctors have been swallowing for a long time. With the doctor and the dentist out of the way the "socializers" and the "welfarers" will be able to turn their attention to the pharmacist. Without doubt the druggist will be dealt a joker just as has been done to his brothers of affiliated service.

Now no man anywhere,—unless he is a brute, unworthy of the name—could possibly hold any quarrel with those who would alleviate toothache in a child. Yet there are several sides to this question. It is a veritable prism whose conflicting angles shine with protest.

Statistics show that free dental clinics for school children whose parents were unable to pay for such service were conducted under the auspices of the public service committee of the Chicago Dental society as long as that humane body could stand the strain. Later the city aided. Subsequently the city of Chicago took over all the work. Evidently, even to the city, the expense and the labor grew to be an unbearable burden for in 1912 there was a dearth and a shifting of the load, according to an article printed in the *Chicago Tribune* on May 28, 1922.

In part this article reads:

For ten years Mr. Rosenwald has been interested in dental service for school children whose parents are too poor to pay for the proper care of their teeth. Prior to 1912, shocking mouth conditions disclosed by a local survey, and crippling effects upon the children from neglect, had led to the establishment of four dental infirmaries in public schools, by *benevolent dentists who gave their services as operators.*

The italics are ours. It begins to look as if, before very long, those "benevolent dentists" might need a few benevolences themselves. Further, they are dragging the nose and throat men, and to a certain extent the oculists, along with them into the quicksands.

Odontologists can expect nothing better in the ultimate from this ultra-altruistic scheme, than has come to the great body of physicians from the dispensary evil by which has been built up that menace known as the "abuse of medical charity." From an institution founded to help only the worthy sick who are destitute, the dispensary clinic has evolved into a thrifty economy beloved of the penurious well-to-do, and patron-

ized in great numbers by the very rich. Nor does this last class look upon dispensary service as a kindly favor, but rather as a constitutional right.

With deeper interest the article cited previously proceeds to say:

Mr. Rosenwald in 1912 came to their aid, and equipped six additional infirmaries. He assumed the cost of paid operators for all ten, and added a supervising dentist. He provided also a fund for supplies and repairs. The service was conducted by the public service committee of the Chicago Dental Society and by the city health department, until the city took all of it over. According to Dr. C. N. Johnson—the Nestor of the dental profession in Chicago—Mr. Rosenwald came into the work at the psychological moment to save it *as the individual dentists were no longer able to carry it on.*

Again the italics are ours. Is it *lese majesty* to ask who is expected to come to the aid of the "benevolent" and the "individual" dentists when they are "no longer able to carry on" themselves and their families?

The handwriting glows upon the wall once more for those who care to look and who can read. Let it be repeated that "tonsil and adenoid work are included in the programme presented by Dr. Michael M. Davis, Jr., of New York City, who conducted the survey" that furnished Julius Rosenwald the text for his book.

According to the tentative and fundamental plan set forth by Dr. Davis, as a basis for study, it is estimated that the beginning of this system in Chicago would call for an initial expenditure of about one million dollars. Of course this figure does not include the cost of a site for the institutions.

Details published in the *Tribune* article indicate that

The plan advocated would include: A central institution of approximately sixty dental chairs; four branches approximately of thirty chairs each; school clinics for curative work, located in outlying districts and supplementing the branches; dental prophylaxis and instruction in oral hygiene for all children, to be done in the schools, according to the Rochester plan, by traveling squads of hygienists under centralized dental supervision; the central institution to be under an independent board, but affiliated with medical and dental education and with a general hospital; scientific research into the causes and methods of preventing tooth decay.

My, my! WHAT a lot of fat jobs there are going to be for somebody! The best that can be said for bureaucracy is that its red tape is strung with thousands of positions and "easy berths"

for thousands of people who would otherwise be unable to draw such high wages, or perhaps, not any wages at all! Clerks, walking delegates, incompetents, politicians, undergraduates and "straw bosses" by the score will find gilt-edged opportunities to fatten and wax wealthy on this canny capitalization of juvenile toothaches.

At the Forsyth Laboratory in Boston, that is held to be a model institution of its kind, we believe that each child who comes to the clinic is asked to fetch a nickel to pay for the service rendered. The explanation has been given that "This is to remove from the mind of the child any idea that this dental care is a charity." Which of course is all very well, and psychologically, very commendable,—but—

*A nickel is not even a carfare.*

Is there not a possibility that this thoughtful precaution devised to save the pride of the child may discharge a backfire that is far more destructive in a maudlin, unnecessary and almost cruel pauperization of the dentist and the nose and throat men, and the prostitution of the public?

Dr. Davis figured that the plan might prove too large for Chicago to accept as one mouthful. He is quoted, however, as believing that in the beginning at least the following shall be sent under way:

A central institution with one branch. Arrangements with dental clinics in schools for suitable relationship to the central institution and the branch, so that in at least a certain part of the city the school clinic element as well as the institutional element will be represented. Provision of prophylactic work for all schools in the area most accessible to the central institution, or to the branch or to both such areas.

A little further along the article says

A beginning on this scale would serve about one-fifth of the 600,000 children of school age and of pre-school age, or at least 120,000 children. The central institution exclusive of ground, but with equipment would cost about \$700,000 and the branch about \$300,000.

All of which would appear to be most excellent activity for everybody but the dentist who seems to be slated for the part of the sacrificial lamb. The dental profession is not endowed. Even now there exists far too small a wage incentive in all of the learned professions. Medicine and its allied sciences suffer over much from this deficit. Make the burden heavier and it is an open question as to how long the profession can exist as a



profession, under the economic strain involved. Neither will there be any stimulus spurring a man on to learn to be a dentist and to practice so trying and so poorly paid a labor. Dentistry will stagnate and deteriorate. Just as in Germany under the health insurance laws, medicine has sunk into the level of salaried routine to such an extent that for twenty years practically no medical discoveries have emanated from a country that previously had been held to be the cradle of advanced medical thought. The tree of socialistic theory will bear no sweeter fruit for dentistry than it has done for medicine. Dentistry can hope for nothing better than medicine has received.

This is sadly true. When the wheel comes round again and the result with the dentists then is as it is now with the doctors, to the sponsors of this Utopian idea will be put the logical query,

"What are you going to do with dentistry when the dentist gives out?" It will be well for the philanthropists to refresh their memories with the legend about the goose that laid the golden eggs.

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#### THE ST. LOUIS MEETING OF THE A. M. A.

The registration at the St. Louis meeting was the third largest from a numerical standpoint in the history of this organization having been exceeded by Chicago in 1907 and again in 1918. The total registration was 5,128.

The scientific exhibit was splendid, many useful instruments being shown.

The program was of unusual high order. The papers covered a wide range of subjects, and the sections well attended, and all the papers received free and merited discussion. A notable feature was the appearance on the program of the younger generation of medical leaders and the absence of papers by former so-called leaders of the profession. We understand this was due to the existing rule that no member can appear on the program oftener than once in three years. On the whole the meeting will be long remembered as one of the most successful thus far held.

The house of delegates did a voluminous amount of work and many important problems were discussed and finally passed upon.

Several resolutions introduced into the house of delegates were misunderstood or willfully mis-

used by the press; one of these was a resolution introduced into the house of delegates to amend the by-laws in such a manner as to do away with multiple voting privileges restricting the house of delegates to only such members as are elected by constituent State organizations and to have each man's vote count the same as that of every other man.

Another resolution much misunderstood by the press was the one in reference to the Volstead Act, the press taking the position that it was an attack on said Act. The resolution asked merely that the Act be so amended that the government would furnish the druggist with sealed bottles in bond from the government distilleries, so that physicians desiring to prescribe whiskey would be able to get pure goods. This resolution was passed.

The house of delegates referred the question of a legislative bureau to the Board of Trustees. Such a bureau is being organized with a full time paid secretary. It is supposed to co-operate with the legislative committees of the different states as to all legislation effecting medical men and to furnish information available for every one interested in such legislation. It is also to have charge of all national legislative interests.

The house of delegates took recognition of several economic questions that have been troubling the physicians of the country for several years, for instance the subject of State Medicine came before the house of delegates in the form of a resolution from New York, Illinois and Ohio. Said resolutions were finally merged and the following definition of State Medicine of Dr. J. F. Rooney of New York with a slight modification was adopted: "The American Medical Association hereby declares its opposition to all forms of "State Medicine," because of the ultimate harm that would come thereby to the weal through such form of medical practice. "State Medicine" is hereby defined for the purpose of this resolution to be any form of medical treatment provided, conducted, controlled or subsidized by the Federal or State government or municipality, excepting such service as is provided by the Army, Navy or Public Health Service and that which is necessary for the control of communicable diseases, the treatment of mental disease, the treatment of the indigent sick, and such other services as may be approved by

and administered under the direction of or by a local County Medical Society, and are not disapproved by the State Medical Society of which it is a component part.

Another resolution adopted providing for a public health journal reads as follows:

WHEREAS, There exists an acute need of a lay or a public health journal authoritative in character, a connecting link between the profession and the public, dealing with preventive medicine, hygiene, sanitation and communicable diseases, in brief, to enlighten the public as to what scientific medicine is doing, also its efforts to protect the public against quacks, charlatans and ill advised medical laws; therefore be it

*Resolved*, That the Board of Trustees be urged to take immediate steps to develop an efficient plan of lay publicity.

Another resolution passed deals with medical ethics and reads as follows:

To cover group medicine, Article I, Chapter II, Section 4, of the Principles of Medical Ethics was amended to read as follows:

Solicitation of patients by physicians as individuals, or collectively in groups by whatsoever name these be called, or by institutions or organizations, whether by circulars or advertisements, or by personal communications, is unprofessional. That does not prohibit ethical institutions from a legitimate advertisement of location, physical surroundings and special class—if any—of patients accommodated. It is equally unprofessional to procure patients by indirection through solicitors or agents of any kind, or by indirect advertisement, or by furnishing or inspiring newspaper or magazine comments concerning cases in which the physician has been or is concerned. All other like self-laudations defy the traditions and lower the tone of any profession, and so are intolerable. The most worthy and effective advertisement possible, even for a young physician, and specially with his brother physicians, is the establishment of a well-merited reputation for professional ability and fidelity. This cannot be forced, but must be the outcome of character and conduct. The publication or circulation of ordinary simple business cards, being a matter of personal taste or local custom, and sometimes of convenience, is not *per se* improper. As implied, it is unprofessional to disregard local customs and offend recognized ideals in publishing or circulating such cards.

It is unprofessional to promote radical cures; to boast of cures and secret methods of treatment or remedies; to exhibit certificates of skill or of success in the treatment of diseases; or to employ any methods to gain the attention of the public for the purpose of obtaining patients.

Another resolution protesting against ex-service men being sent to chiropractic schools reads as follows:

WHEREAS, The St. Louis Medical Society on May

16, 1922, by memorial and resolutions vigorously protested against the approval by the U. S. Government of the School of Chiropractic as a means of vocational training for disabled ex-service men, and

WHEREAS, It appears that more than 250 ex-service men from all parts of the country, seventy of whom represented the Ninth District, composing the states of Missouri, Iowa, Kansas and Nebraska, are now enrolled in one Chiropractic School in this District, with the sanction and approval of the U. S. Government; therefore, be it

*Resolved*, That the House of Delegates of the American Medical Association, in annual session assembled, representing over 89,000 legally qualified physicians, adequately trained in the arts and sciences (the only foundation for the recognition, control and prevention of disease), approves the sentiment expressed in the memorial and resolutions adopted by the St. Louis Medical Society, which have been submitted to this House and hereby directs that the proper officers of the American Medical Association memorialize and petition the Federal government, particularly those officers charged with the responsibility for the rehabilitation of disabled ex-service men, and to take such action in the interest of the welfare of all the people, and also for the protection of those who honestly desire to administer to the sick, to the end that the ex-soldiers seeking vocational training which will fit them for ministering to the sick and aiding in the recognition, control and prevention of disease, shall, at least, meet the requirements and shall receive such adequate training as is defined in the classification of medical schools of the American Medical Association known as Class A, or acceptable medical schools—a standard which is approved by all right-thinking people moved by a desire for public welfare.

Another resolution was an act to disassociate the American Red Cross and its public health activities. To this the Red Cross have agreed but has not yet modified its public health program. The demand was made upon the Red Cross to cease its public health activities for the reason that such work is foreign to the purpose of the organization and will lead to conflict with reputable medical practitioners. The House of Delegates took appropriate action in this manner in order to convince Red Cross authorities that the public health activities they are engaged in are no longer necessary and that their continuance will prove detrimental to their best interests.

Another resolution condemning the Sheppard-Towner Maternity Act is as follows:

WHEREAS, The Sheppard-Towner law is a product of political expediency and is not in the interest of the public welfare, and

WHEREAS, The Sheppard-Towner law is an imported

socialistic scheme unsuited to our form of government, and

WHEREAS, The Sheppard-Towner law unjustly and inequitably taxes the people of some of the states for the benefit of the people of other states for purposes which are lawful charges only upon the people of the said other states, and

WHEREAS, The Sheppard-Towner law does not become operative in the various states until the states themselves have passed enabling legislation, therefore be it

*Resolved*, That the American Medical Association disapprove the Sheppard-Towner law as a type of undesirable legislation which should be discouraged.

A resolution providing for an increase for medical officers of the United States Public Health Service reads:

WHEREAS, The United States Public Health Service activities have been materially increased by various Acts of Congress, owing to the care and treatment of the thousands of ex-service men and women of the World War, and by the increased requirements in rural sanitation, and by the increased requirements in research laboratory work, and by the increased requirements necessary for efficient immigration inspection; therefore, be it

*Resolved*, That the House of Delegates of the American Medical Association, in annual session assembled, endorse and hereby direct that the proper officers of the American Medical Association take in hand immediately, memorialize, and petition the federal government, particularly the Finance Committee of the Senate, the Interstate and Foreign Commerce Committee of the House, the President, the Secretary of the Treasury, the director of the Veterans' Bureau, and others who can be instrumental, to secure the enactment of Senate Bill No. 2764, introduced by Mr. Watson of Indiana, House Bill No. 9291 introduced by Mr. Dyer of Missouri, and House Bill No. 9775 introduced by Mr. Newton of Minnesota (known as the Watson-Dyer-Newton enactment); all to reorganize and promote the efficiency of the United States Public Health Service, in that they provide for an increase of personnel of that Service by 550 regular commissions; fifty of these to be dental officers, fifty sanitary engineers, and 450 medical officers, to be chosen from men who hold reserve commissions in the U. S. Public Health Service and who have had not less than three years' service in the Army, Navy or Public Health Service, a part of which time must have been served between April 6, 1917, and November 11, 1918. These bills are personnel bills, and do not in any way change the duties of the United States Public Health Service, and do not require any increased appropriation, but simply supply that corps with the needed medical, dental and scientific personnel.

Another resolution calling for a congressional investigation of the narcotic addition reads as follows:

*Resolved*, That the house of delegates of the Ameri-

can Medical Association approve house resolution No. 258 (house of Representatives, Washington, D. C.), providing for a select committee of fifteen to inquire into the subject of narcotic conditions in the United States, the personnel of the congressional committee to include all physicians who are now members of the House of Representatives.

Another resolution asking the American Medical Association to participate with the association of American Universities, the National Educational Association, the Carnegie Foundation for the advancement of teaching, and the federation of State Medical Boards in the establishment of a national commission for the study of drugless therapy was introduced in the House of Delegates.

Another resolution was that the association conduct a survey of pay clinics and group practice, so that principles and policies best designed to protect the general practitioner and the public may be devised. There is much feeling about group practice in the Association, particularly where several specialists in one office are giving specialized treatment.

Suggestions by the council as to medical education included the re-organization of the curricula of medical schools in order to turn out thoroughly trained general practitioners rather than specialists. It further suggested that hospitals be established in rural communities. There seems to be a feeling throughout the country that specialism is overdone. There is today a universal feeling that a demand for the all round practitioner and that the specialist is only needed in exceptional cases. The truth is that ninety per cent of medicine and surgery can be done by what is known as the well equipped general practitioner. The truth of the matter is that the general practitioner must dominate the medical profession.

All told the meeting was an unusually lively one. The delegates evidently came with the intent of fighting it out in St. Louis if it took all summer. The general feeling among the delegates seemed to be a determination to resist further encroachments upon the rights and privileges of legitimate practitioners of medicine whether by legislative action of State or National Governments or whether the encroachments come from the State Medicine or Soviet government advocates within the profession of which there are a goodly number.

To us who have been fighting the cause of the

rank and file it was gratifying that the A. M. A. at the St. Louis meeting took a definite and determined stand in endorsing the (congressman) Volk resolution for an investigation of the narcotic situation; and manifested a return to sanity in the resolution recognizing whiskey as a medicine, and took exception to the policy of the federal vocational board initiated July, 1921, to send more than two hundred and fifty ex-service men to chiropractic schools (although eleven months had been wasted by the managers "ad interim" of the A. M. A.); and the resolution opposing "State Medicine" and defining its reasonable limitations; and the resolution opposing the Sheppard-Towner Maternity Act and the proposed amendment by Dr. Mongan of Massachusetts which would eliminate the scientific section and Army and Navy public health service delegates.

Dr. Ray Lyman Wilbur of San Francisco was made President-elect.

The next session will be held in San Francisco, the date to be the last week in June, 1923.

#### ILLINOIS PART IN THE A. M. A. ST. LOUIS MEETING

The Illinois profession played a very conspicuous part at the 1922 meeting of the American Medical Association, both in the scientific section and the House of Delegates.

The attendance at the meeting from Illinois was nominally one thousand or one-fifth the entire registration.

In the House of Delegates two members from Illinois were appointed on important reference committees and as usual gave a very good account of themselves.

Since returning home we have heard from many people from within and without the State and all have expressed profound gratification with the progress that we made at St. Louis in behalf of honest medicine and against the medical politicians. Many have complimented us on our protest against the nationalization of medicine.

The profession of America owes to a comparatively few State delegations of which Illinois is one more than it at present realizes. For several years we have fought the tendency towards the socialization of medicine. We are beginning to feel that our efforts have not been in vain. We hope that now in this hour of great pain, there

will be no letting up on the part of the men who have made the fight, until complete control of medicine is again in medical hands, an honest and independent medical journalism is restored. We still realize that we are fighting against a shifty foe and resourceful coherent enemies. Like a tapeworm we never get rid of them until we have the head.

At the St. Louis meeting it was plainly apparent that the propaganda of enlightenment carried on during the last year by the "*Indiana State Medical Journal*"; "the Medical Advisory Committee"; and the "*ILLINOIS MEDICAL JOURNAL*" had a far reaching effect; that it changed the sentiment of a great majority of the A. M. A. delegates as well as the doctors over the United States to the dangers of the socialistic trend of medicine. The evidence of the fact that the work of the *Indiana Medical Journal*, the Medical Advisory Committee and the *ILLINOIS MEDICAL JOURNAL* and a few individuals over the United States carried weight and warning was the display of the American Medical citizenship at St. Louis. This latter should encourage all that the fight and appeal was worth while and should be carried on to a successful termination. Since the St. Louis meeting it begins to look as if we are getting down to facts and sanity in the management of the A. M. A. affairs.

As a result largely of the propaganda mentioned and the exposure of unfair tactics of the entrenched interests the American Medical Association in open session at St. Louis reversed by resolutions the previous action and policies of its committees of the council on Health and Public Instruction, on schemes for State Medicine, Maternity Legislation, Alcohol and Narcotics.

The delegates from Illinois brought to the A. M. A. meeting three resolutions recommended by the Illinois State Medical Society; all three were pushed to a successful conclusion in that they were either adopted in toto or with slight modifications or were merged with similar resolutions from other states. These three resolutions were an anti-"Sheppard-Towner Maternity resolution," a resolution asking for a congressional investigation of the narcotic problem in this country and a resolution defining and condemning State Medicine. They are as follows:

Sheppard-Towner maternity resolutions:

WHEREAS, The Sheppard-Towner law is a product of



political expediency and is not in the interest of the public welfare, and

WHEREAS, The Sheppard-Towner law is an imported socialistic scheme unsuited to our form of government, and

WHEREAS, The Sheppard-Towner law unjustly and inequitably taxes the people of some of the states for the benefit of the people of other states for purposes which are lawful charges only upon the people of the said other states, and

WHEREAS, The Sheppard-Towner law does not become operative in the various states until the states themselves have passed enabling legislation, therefore be it

*Resolved*, That the American Medical Association disapprove the Sheppard-Towner law as a type of undesirable legislation which should be discouraged.

#### RESOLUTION ASKING FOR CONGRESSIONAL ..INVESTIGATION OF NARCOTICS

*Resolved*, That the Illinois State Medical Society now in session at Chicago, Illinois, approve House Resolution No. 258 (Rouse of Representatives, Washington, D. C.), providing for a select committee of fifteen to inquire into the subject of Narcotic conditions in the United States. The personnel of this committee to include all doctors who are now members of the House of Representatives; be it further

*Resolved*, That the Society endorses the position taken by Hon. (Dr.) Lester D. Volk, the propounder of Resolution 259 which position he has so ably and admirably sustained in a speech delivered in the House of Representatives on Jan. 13, 1922; be it further

*Resolved*, That a copy of these resolutions be sent to the Senators and Representatives of Illinois in Congress and that they be requested to use their best efforts to bring about the adoption of the resolution presented by Hon. Lester D. Volk.

*Be It Further Resolved*, That the delegates from the Illinois State Medical Society to the American Medical Association at St. Louis, Missouri, be and are hereby instructed to present this resolution to the House of Delegates to the A. M. A., at its own coming meeting, May 22 to 26, at St. Louis, and to use every honorable means to secure its adoption.

#### STATE MEDICINE RESOLUTION

*Be It Further Resolved*, That the delegates of the Illinois State Medical Society to the House of Delegates of the American Medical Association be and are hereby instructed to most emphatically oppose State and Federal Medicine or any scheme under the guise of "Health Centers," "Group Medicine," "Diagnostic Centers," howsoever named, under the direction, custody or control of the City, County, State or National Government; and to define the legitimate medical function of organized society as sanitation and public hygiene; the teaching of personal hygiene, teaching of medical students; medical research; rendering medical services to the enlisted men and officers of the army and navy; rendering medical services to the inmates of the charitable and penal institutions of the nation, the state and its political subdivisions; and

rendering medical services to the indigent; and defining as unworthy of the approval and support of the American Medical Association any other medical function by the Federal Government, the State, or any of its political subdivisions, and that the delegates from the Illinois State Medical Society to the American Medical Association be and are hereby instructed to present this resolution to the House of Delegates to the American Medical Association at its coming meeting May 22 to 26 at St. Louis and to use every honorable means to secure its adoption.

The Illinois delegation, voting as a unit and having nine votes, occupied a strategic position at St. Louis in the House of Delegates in that they held the balance of voting power for the President-elect and for Speaker of the House. The Illinois delegates voted for Wilbur for President-elect because of his record on medical education and on medical economic problems. The delegation felt that while he was only seventy-five per cent correct in his position on medical economics his opponent on the contrary had taken no position on this important question. The ballot was 69 for Wilbur and 54 for his opponent. Had Illinois delegates voted for his opponent the latter would have been elected by three votes. In the election for Speaker of the House the Illinois delegation held the same strategic position; the present speaker and a gentleman from New York were candidates for the position as speaker. There was much objection to both candidates, the present speaker's faults were generally recognized as numerous, glaring and even serious; the objections to the New York candidate were also serious, his alleged connection with what has been termed "ten medical men and a couple of lawyers" who somehow got mixed up in the narcotic problem in New York which was the subject of an attack by Congressman Volk in a recent speech was a serious bugbear to the New York candidate. This, together with his alleged intimacy with Dr. Alexander Lambert, of health insurance fame, outweighed the objections to the present speaker so far as the Illinois delegation was concerned. The New York gentleman remained a candidate until the House of Delegates went into session for the election, his pledged votes were sufficient to have elected him with the support of the delegates from Illinois. When notified after the House was in session for election of officials that Illinois delegates would vote for the present speaker the New York gentleman's name was withdrawn. Had Illinois' nine delegates voted against the present speaker he would have been defeated by five votes.

## A DEFINITION OF STATE MEDICINE AT LAST. A. M. A. GOES ON RECORD AT THE ST. LOUIS MEETING

Illinois, New York, District of Columbia, Ohio and Maryland delegates all introduced into the A. M. A. House of Delegates at St. Louis resolutions defining State Medicine. After much discussion the resolution introduced by Dr. J. F. Rooney, delegate from New York and modified to read as follows was passed by the house of delegates:

"The American Medical Association hereby declares its opposition to all forms of 'State Medicine,' because of the ultimate harm that would come thereby to the public wheel through such form of medical practice. 'State Medicine' is hereby defined for the purpose of this resolution to be any form of medical treatment, provided, conducted, controlled or subsidized by the Federal or any State Government or municipality, excepting such service as is provided by the Army, Navy or Public Health service and that which is necessary for the control of communicable diseases, the treatment of mental disease, the treatment of the indigent sick, and such other service as may be approved by and administered under the direction of or by a local County Medical Society, and are not disapproved by the State Medical Society of which it is a component part."

This resolution still has its limitations; however, it is sufficiently clear to put the American Medical Association squarely on record against what had grown to be known as "State Medicine."

At the 1921 meeting of the American Medical Association, Illinois, New York and New Hampshire delegates brought in resolutions attempting to define "State Medicine." The state medical advocates and public health officials were sufficiently numerous in the House of Delegates to prevent a proper definition being recommended by the reference committee and a compromise resolution was finally adopted. This resolution within sixty days was used by a member of the (Winslow) House of Representatives committee on Interstate and Foreign Commerce when Dr. Humiston, President of the Illinois State Medical Society, appeared before this committee to protest against the enactment of the Sheppard-Towner Maternity Bill, to confound the medical opponents of the Sheppard-Towner Bill with an apparent specific "endorsement" of

activities and policies of the Federal Government of the type represented by the Sheppard-Towner Act, which was at variance with the attitude of the profession generally, on the subject of "State Medicine" and at variance specifically with the spirit and letter of the resolutions introduced into the house of delegates by the States mentioned.

We feel there can be no misinterpretation of the meaning intended by the resolution passed at the St. Louis meeting.

## A NEW MEDICAL JOURNAL

A new medical monthly known as the *American Medical Press* recently made its appearance. The first issue came off the press in June.

The *American Medical Press* is a new endeavor in medical journalism. Its intent and purpose is to reach the Doctor as a citizen as well as a professional man.

The new Journal will be devoted to the political and economic interests of the medical and allied professions. In this Journal the rank and file are again to have a voice in reshaping their own future. It is to be an open forum and a digest of current events and editorial opinion to enable the allied professions to see the problems and responsibilities of their citizenship.

The Medical Press is a new declaration of independence. Unity of action can only come through an awakened professional conscience, in response to an uncensored and fearless medical press. The obligations of acting as a medicopolitico and economic clearing house have been assumed by this Journal and will be met by the handling of all issues on their merits.

This is to be every Doctor's Journal and you are urged to send facts, opinions, news items and suggestions for the benefit of all concerned for editorial consideration.

The office of the publication is the American Medical Press, 280 Broadway, New York City. Dr. F. H. McMechan, A. M., M. D., is editor and Harvey S. Knox, Business Manager.

The subscription price of the Journal is \$2.00 per year—three years for \$5.00 or a subscription will be sent you and any two other members of the profession you may designate for \$5.00.

We feel that there is great need in America of a periodical devoted to medical economics. We wish the new Journal all the success possible in their new enterprise.

## Correspondence

### THE ALMIGHTY VOTE

*To the Editor:*

The medical profession is gradually losing its prestige at the hands of inexperienced and untrained individuals imposing themselves on the people, at the expense of the high standards and ideals of the profession. Although these enemies are obviously not to be compared with the highly educated, dignified, and too ethical followers of the noble science of medicine, they are remarkably adept at wielding the modern club of war, that weapon which enters all phases of modern life, to the petty pull of city politics, to the huge field of industrialism and commerce; that weapon is politics, and its ammunition is votes.

Against such adversaries as fanatical social reformers and profit-seeking imposters, wielding such a potent weapon as political influence, the poor medical profession has bravely fought the ever-increasing onslaught with but the frail philosophical weapons of ethics and idealism. It is pathetic. Ethics, clothed in the garb of delusion, is our worst enemy.

True, the position of honor and respect enjoyed by the medical profession should not be jeopardized by inexpedient action, but neither should it be endangered by lack of action, or misdirected energy. Letter writing to representatives, or wordy protests, are not only meaningless and useless, but are detrimental in that they accomplish nothing but the postponement of practical action. They have no solid, politically interested organization behind them, therefore it is impossible for them to compete with the more cogent epistles of our opponents. If opposing interests can accomplish their ends by the use of politics, why cannot the medical profession protect its interests by the adoption of politics?

At the mention of politics in connection with the medical profession, no doubt many of our well-meaning brethren quake with resentment and scorn at such "unethical proceedings"; yet is not the adoption of political influence preferable to obliteration? We must remember that something must be done; if it is too unethical to organize merely for the harnessing of our power, we must accept the consequences of humiliation and defeat—not only a defeat for our-

selves but a retreat backwards of the society in which we live. If our enemies succeed in the fulfillment of the ends toward which they are working, the day of their ultimate success will see the defeasance of the integrity of the once distinguished profession, and the rise of a new clerical bureaucracy of medicine to replace it.

What inducement for a young man to study for a clerical position in a bureaucracy controlled by petty politicians, and reeking with the intrigues of red tape? The mowing down of former educational standards and ideals would follow to induce men to enter the department. This would be synonymous with cutting down the high type of character formerly desired in the men to whom the lives of our loved ones are entrusted. Would this be beneficial to our society? Can you think of any method unethical enough to use against such interests as would want to bring such disaster to one of the finest professions, and such chaos to our society? Organizing against such a catastrophe could certainly not be called unethical; to refrain from doing so would be to say we are "too proud to fight."

We have, it is true, medical associations and societies very beneficial to the profession of medicine in more or less of a social or professional aspect. These societies carry practically no weight in influencing legislation, they are not politically organized, and control no votes. They are useless and harmless to the politician, and therefore their favor is not sought, their interests not considered, and their demands unheeded. If we would have our favor sought after, our interests protected, and our demands fulfilled, we have but to organize in a manner which would enable us to control votes. Such an act would take the control of medical legislation out of the hands of untrained laymen and put it into the care of conscientious and trained men who have made medicine their life study, and who are desirous of preserving its high ideals.

The physicians, surgeons, dentists and druggists, not to mention innumerable drug houses and other allied interests, organized compactly together in a political unit, in the interests of proper medical legislation, would be powerful enough to put a stop to such disgusting measures as were formerly passed by our legislatures. Such an organization would, through the prestige and influence of its distinguished members, control



thousands of votes, a factor of all importance to vote-crazed politicians. It would, because of its great extent, have resources sufficient to establish men at the legislatures to look after its interests. By publicity of the disastrous results of laymen control of medicine, it would ingratiate public opinion, and thereby add a compelling factor to our forces. Because of its size and influence its once-powerful enemies would be overwhelmed; legislators could not fail to heed the wishes of the association, our interests would not be treaded upon, and biased reformers would be forced to look for new fields of endeavor.

JOHN B. ROSS, M. D.

### THE MEDICAL RECORD

New York, June 19, 1922.

The enclosed communication was published in the *Boston Medical and Surgical Journal* for the purpose of correctly informing the medical press of the country in relation to the matter therein discussed.

It was also published in the *Medical Week*, the official mouthpiece of the Medical Society of the county of New York for the enlightenment of my fellow members in a similar way.

Its publication in the journal of the American Medical Association, of which I am also a member, having been refused, I ask the courtesy of your columns for an opportunity of giving the medical profession of the State of Illinois, who are members of the American Medical Association, an opportunity to pass upon the facts contained in this letter as well as the brethren of the State of New York.

JOHN P. DAVIN, M.D.

117 W. 76th St.

### THE PASSING OF THE MEDICAL RECORD

Mr. Editor:

A statement that the passing of the *Medical Record* "means the end of independent medical journalism" has caused considerable criticism in the Medical Press. This statement, which was declared "absolutely false," was attributed to me in a letter to the *New York Herald* on April 22 over the signature of the A. R. Elliott Publishing Company. The communication from the Elliott Company was in reply to one from me to the *New York Herald* on April 20, 1922, in which, referring to the merger of the *Medical Record* and the *New York Medical Journal*, I said: "In the first place this means the end of independent weekly medical journalism in this part of the United States, if not throughout the country."

I am asking the publication of this "explanation" in the *Boston Medical and Surgical Journal* as the *New York Herald* has ignored two requests to this effect. As to the charge of "absolute falsehood," I leave it to be placed where it belongs by any unprejudiced reader of my original communication and the perverted version of it to which I have called attention.

JOHN P. DAVIN, M.D.

117 W. 76th Street, New York City.

### WHY ALL THIS KNOCKING OF THE NON-MEDICAL PRACTITIONER?

Chicago, Ill., June 13, 1922.

To the Editor:—In the June issue of the ILLINOIS MEDICAL JOURNAL, there has been considerable discussion on the non-medical problem; or, as Dr. Humiston calls it, the problem of the Medical Parasite. Let us stop and consider as to whether we, as medical men, are not somewhat to blame for this condition of affairs. I will illustrate what I mean by citing the following example: In the eye department of a large medical clinic, connected with the second largest hospital in this city, two or three medical men are in attendance, giving their services gratis; on the other hand, an optometrist attends twice a week, and receives compensation for his services. Yet the medical men say nothing and the non-medical man laughs up his sleeves for putting it over the medical men.

Now, if the M. Ds. are going to tolerate this state of affairs in purely medical institutions under medical control, then why all this knocking of the non-medical practitioner?

H. W. B.

### Book Reviews

THE WRITING OF MEDICAL PAPERS. By Maud H. Melish, Editor of the Mayo Clinic Publications. 12mo of 157 pages. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, \$1.50 net.

As the author states in the introduction, "Many men and women, who unfortunately do not possess the art of writing and have not acquired its usable substitute, the craft of writing, have yet chosen medicine as a life work. For these there is a need of a hand book adapted especially for the profession and including the essential points to be found in general text books. This work meets the requirements admirably.



## Society Proceedings

### ILLINOIS STATE MEDICAL SOCIETY MEETING OF HOUSE OF DELEGATES

#### OFFICIAL MINUTES

#### CHICAGO

*First Session, Tuesday, May 16, 1922.*

The House of Delegates of the Illinois State Medical Society met at the Congress Hotel, Chicago, Tuesday, May 16, 1922. The meeting was called to order at 8:15 P. M. by the president, Dr. Charles E. Humiston.

The chairman of the committee on credentials, Dr. W. H. Gilmore, read the report. There were no contests.

The roll call was then read by the secretary, who announced that a quorum was present.

The next order of business was the reading of the minutes of the last meeting. The secretary announced that the minutes had been published in the July, 1921, issue of the ILLINOIS MEDICAL JOURNAL. It was moved that the minutes as published be adopted. Seconded and carried.

The President appointed the committee on resolutions, consisting of Drs. Hugh N. MacKechnie, Chicago, E. H. Ochsner, Chicago, and C. S. Nelson, Springfield.

Dr. W. H. Gilmore, Secretary, presented the following report:

Gentlemen of the "House of Delegates": Your secretary begs to report the collection of the following sums, from all sources, for the year 1921 and for the first four months of 1922, the first figure read being for the fiscal year and the second for the first four months of the current year:

	1921	1922
	1921	1922
Adams .....	\$ 321.00	\$ 3.00
Alexander .....	66.00	105.00
Bond .....	45.00	65.00
Boone .....	42.00	65.00
Brown .....	13.00	.....
Bureau .....	99.00	128.50
Carroll .....	81.00	.....
Cass .....	45.00	20.00
Champaign .....	195.00	335.00
Christian .....	108.00	.....
Clark .....	60.00	50.00
Clay .....	39.00	.....
Clinton .....	45.00	.....
Cook .....	10,522.00	16,000.00
Crawford .....	84.00	3.00
Coles-Cumberland .....	109.50	198.00
De Kalb .....	* 114.00	90.00
De Witt .....	48.00	.....
Douglas .....	81.00	.....
Edgar .....	66.00	108.00
Edwards .....	18.00	25.00

Effingham .....	78.00	125.00
Fayette .....	24.00	.....
Franklin .....	98.50	55.00
Fulton .....	258.50	.....
Gallatin .....	27.00	30.00
Green .....	89.00	.....
Grundy .....	45.00	55.00
Hamilton .....	30.00	.....
Hancock .....	60.00	60.00
Hardin .....	24.00	40.00
Henderson .....	30.00	.....
Henry .....	123.00	.....
Iroquois-Ford .....	165.00	.....
Iroquois .....	.....	105.00
Ford .....	.....	100.00
Jackson .....	96.00	135.00
Jasper .....	57.00	6.00
Jefferson .....	96.00	128.50
Jersey .....	24.00	.....
Jo Daviess .....	51.00	55.00
Johnson .....	32.50	.....
Kane .....	348.00	457.00
Kankakee .....	117.00	195.00
Kendall .....	49.00	15.00
Knox .....	147.00	201.00
Lake .....	98.00	147.00
La Salle .....	201.00	221.00
Lawrence .....	78.00	75.00
Lee .....	75.00	103.00
Livingston .....	96.00	.....
Logan .....	75.00	138.00
McDonough .....	69.00	79.50
McHenry .....	96.00	135.00
McLean .....	234.00	242.00
Macon .....	228.00	435.00
Macoupin .....	154.50	152.00
Madison .....	291.00	475.00
Marion .....	91.50	74.50
Mason .....	48.00	.....
Massac .....	42.00	.....
Menard .....	.....	33.00
Mercer .....	54.50	30.00
Monroe .....	41.00	5.00
Montgomery .....	60.00	3.00
Morgan .....	132.00	125.00
Moultrie .....	36.00	.....
Ogle .....	61.50	22.50
Perry .....	54.00	50.00
Peoria .....	438.00	393.50
Piatt .....	46.50	70.00
Pike .....	87.00	79.50
Pulaski .....	12.00	.....
Randolph .....	108.00	.....
Richland .....	15.00	57.00
Rock Island .....	211.50	333.50
Saline .....	120.00	145.00
Sangamon .....	351.00	.....
Schuyler .....	30.00	50.00
Scott .....	12.00	.....
Shelby .....	62.50	10.00
Stark .....	45.00	.....
St. Clair .....	.....	879.00
Stephenson .....	144.00	233.00
Tazewell .....	120.00	.....
Union .....	63.00	77.75
Vermilion .....	299.00	430.00
Wabash .....	69.00	71.50
Warren .....	78.00	.....
Washington .....	54.00	70.00
Wayne .....	69.00	.....
White .....	57.00	80.00
Whiteside .....	90.00	140.00
Will .....	189.00	207.00
Williamson .....	90.00	192.00
Winnebago .....	256.25	3.50
Woodford .....	63.00	95.00

Refund .....	2.75	.....
	1921	1922
Subscriptions .....	\$ 131.25	\$ 79.05
Exhibits .....	1,020.00	1,887.00
	\$20,928.62	\$27,126.80

During the fiscal year 1921, 171 voucher checks were drawn for a total of \$38,972.27, divided as follows: General expense, which includes publishing the JOURNAL, \$25,595.06; Medico-Legal, \$10,482.60; Legislative, \$3,894.61. For the first four months of the current year, 66 voucher checks were drawn for a total of \$17,622.75, of which sum \$11,548.18 was for General expense, \$337.35 Legislation, and \$5,737.22 Medico-Legal.

During the current year 550 members were dropped and 49 died; 605 members have been accepted by the various component societies and 192 have been re-instated, the membership of the State Society being 6,816.

During the past year the Iroquois-Ford society was disbanded and in the place of one hyphenated society we now have two active bodies, the Iroquois County Medical Society and the Ford County Medical Society. The increase of the per capita tax to \$5.00 at the last meeting of the House of Delegates created quite a bit of discussion and irritation in the component societies who did not have a delegate present at that meeting, or who did not receive the proper report, if they were represented. This action was taken unanimously, owing to the increase in the general expenses and I think at this time is better understood owing to the large amount of missionary work done by the various Councilors.

Respectfully submitted,

W. H. GILMORE, Secretary.

It was moved that the report of the Secretary be adopted. Seconded.

Dr. W. F. Grinstead offered to pay the dues of Pulaski County, which had been dropped for non-payment. Dr. Gilmore explained that he did not have the books to show the amount of money owed by this county; that the County was advised many times that it was in arrears and was dropped December 31st.

Dr. Humiston said the County would not be dropped if the report was adopted.

The motion to adopt the Secretary's report was carried.

The next order of business was the report of the Council. The Chairman, Dr. C. W. Lillie, East St. Louis, gave the following report:

#### REPORT OF CHAIRMAN OF COUNCIL

To the House of Delegates of the Illinois State Medical Society:

As chairman of the Council, and councilor of the 9th District, I submit for your approval the following report:

Was elected chairman of the Council at the June

meeting, and at once assumed the duties of that office.

There has been four meetings of the Council during the year—June 30, 1921, Chicago; October 10, 1921, Chicago; January 12, 1922, Chicago, and April 3, 1922, all held in Chicago, all of which I have attended, the usual routine business being transacted.

Two appeals by members to the Council, both being in Chicago, were made to the Council. One of these was heard at the June meeting, and on account of an apparent defect in the official notice was referred back to the Chicago Medical Society. The other case is pending and will be considered either at the present session or at the June meeting of the Council.

The condition of the Society as a whole has improved during the year, due in part to the activities of the Editor of the JOURNAL, and the councilors. These combined forces have stimulated a greater interest among the members in those matters considered of vital importance to the citizens of the State, and it is confidently believed that the general apathy of the members will not again prevent an earnest support of the officers in their efforts to secure sane health legislation.

Much of the time of your chairman, as also that of Council members, has been given over to the selection of the legislative candidates whom the profession should support, and to this end I have made eight County Society visits, having been in each Senatorial district in the 9th.

I am confident that a better understanding of the relations of the doctors to health matters can be secured only by earnest effort on the part of the councilors, and by the JOURNAL editorials. The latter, if read by all the members, would awaken a profound interest, but there are quite a number who do not read the JOURNAL, the greatest force for the good of the general public and the medical profession which is to be found in any state.

C. W. LILLIE,

Chairman of the Council and Councilor 9th District.

Dr. A. J. Markley, Belvidere, presented the following report:

#### TREASURER'S REPORT

Report of Illinois State Medical Society for period May 13, 1921, to May 12, 1922:

##### GENERAL FUND

May 13, 1921—	
Balance on hand.....	\$ 8,336.70
Received from Secretary.....	20,289.17
Received from Ill. Med. Journal.....	10,000.00

Total .....	\$38,625.87
Vouchers paid .....	27,387.35

May 12, 1922—Balance on hand.....\$11,238.52

##### MEDICO-LEGAL DEFENSE FUND

May 13, 1921—	
Balance on hand .....	\$16,456.66
Received from Secretary.....	9,846.50

Total .....	\$26,303.16
Vouchers paid .....	14,841.38

May 12, 1922—Balance on hand.....\$11,461.78

## LEGISLATIVE FUND

May 13, 1921—

Balance on hand.....\$ 4,853.71

Received from Secretary..... 6,447.75

Total .....\$11,301.46

Vouchers paid ..... 2,973.05

May 12, 1922—Balance on hand.....\$ 8,328.41

In explaining the apparent discrepancy between the reports of the Secretary and Treasurer Dr. Gilmore said that when the new constitution was adopted in 1915 it made the Secretary's report cover the fiscal year and the first four months of the current year, so that the two reports will never agree unless the dates are checked back.

It was moved that the report of the Treasurer be accepted. Seconded and carried.

The next order of business was the report of the Councilors.

There was no reports from the 1st, 2nd, 7th and 9th Districts.

Dr. S. J. McNeill, Chicago, presented the following report from the 3rd District:

*WILL COUNTY MEDICAL SOCIETY.*

Seventy-one members in good standing.

Took in 4 new members. The Society is active in everything pertaining to the practice of Medicine.

*LAKE COUNTY MEDICAL SOCIETY.*

Forty-one members in good standing.

Took in 5 new members. This is also very active and is trying to induce every reputable physician in Lake county to become a member.

*KANKAKEE COUNTY MEDICAL SOCIETY.*

Forty-one members in good standing.

Took in 4 new new members. This society is very active, but there are 23 physicians in good standing that are not members. They are going to try and induce these physicians to become members this year if possible.

*DUPAGE COUNTY HAS NO ORGANIZATION. THE CHICAGO MEDICAL SOCIETY*

Three thousand eight hundred and twenty-eight members in good standing, 27 deaths.

Took in since the last State meeting at Springfield, Ill., 359 new members. The Chicago Medical Society is divided into fifteen branches, that meet once a month. There are three to four scientific papers read and thoroly discussed at each meeting. All of these have had a very successful year. The branches are as follows and number of members in each branch:

Members.

CALUMET .....	43
CHICAGO HEIGHTS .....	42
DOUGLAS PARK .....	229
ENGLEWOOD .....	171
EVANSTON .....	160
IRVING PARK .....	150

JACKSON PARK .....	375
NORTH SIDE .....	417
NORTH SHORE .....	550
NORTHWEST SIDE .....	385
SOUTH CHICAGO .....	63
SOUTH SIDE .....	365
STOCK YARDS .....	156
WEST SIDE .....	396
AUX PLAINES .....	248

The Main Society meets every Wednesday evening in the Marshall Field Annex. Four to six scientific papers are read and discussed at each meeting.

THE COUNCIL OF THE CHICAGO MEDICAL SOCIETY meets the second Tuesday of every month; there are 56 members in the Council, 15 councilors at large, 41 branch councilors. At each meeting of the Council the business of the Chicago Medical Society is transacted and in the Council there are nine standing committees, which are as follows:

1. MEMBERSHIP.
2. MEDICO-LEGAL.
3. ETHICAL RELATIONS.
4. GRIEVANCE.
5. MILK COMMISSION.
6. HOSPITAL ORGANIZATION.
7. PHYSICIANS RELIEF.
8. PUBLIC RELATIONS.
9. LEGISLATIVE.

Each committee meets and investigates the work that is assigned to them and reports to the Council for the final action. All the committees have accomplished a great amount of work this year. It is gratifying to see the businesslike way these committees do their work, being so fair to everybody concerned.

Respectfully submitted,

S. J. McNEILL,

Councilor for the Third District.

Dr. W. D. Chapman, Silvis, presented the following report from the 4th District:

## FOURTH DISTRICT

The 4th District had the misfortune to lose a good Councilor through the resignation of Dr. Gillespie of Peoria, who resigned on account of ill health. I have endeavored to hold the district together through the winter and spring months. All the county societies of the District are in flourishing condition. There are still some societies that hold only one or two meetings a year. I regard the few meetings as a distinct disadvantage to the county societies but the District has very few of those societies at present.

There is one matter which has come up during the year which I thought deserved special attention, that is the matter of ethical relations of the physicians of the district to each other in its relation of malpractice suits. A suit recently came to our attention, which was a doubtful suit to say the least. It was a case in which some threads were found in a sinus following appendectomy. No sponges were found. At the expiration of nine months another surgeon removed the threads, excised the sinus and the wound healed.

Following the first operation the patient had gone to work in two weeks. She had lost no time whatever. The nurse, a graduate, was positive that she always put the selvedge end of the gauze on the inner side of the drain and fastened the gauze and the split rubber with a safety pin. The insurance adjuster asked advice and was told to settle the case. He asked if he might be justified in getting as high as \$800 to get it cleaned up. He was advised that that might be reasonable but was extreme. A week later the insurance adjuster settled it for \$1,440 and the District is threatened with a flood of malpractice suits as soon as a few shark lawyers discover there is such a possibility. Another case in the District was settled for \$1,200, when the first price was \$500. I firmly believe that any member of the State Society who appears as a witness in an unjust malpractice suit is a fit individual for the Ethical Relations Committee. I believe this is the most important thing that has come to our attention during the last half of the year.

Dr. C. S. Nelson, Springfield, presented the following report for the 5th District:

#### FIFTH DISTRICT

The Council of the 5th District has heretofore represented nine counties and eight medical societies, but as the secretary stated in his report, the Ford-Iroquois Society dissolved and formed themselves into two individual county societies. I encouraged this for the reason that I received a great many complaints from the members of the two counties that because of living in remote parts of the county and poor railroad accommodations they could not attend the meetings. The County Society does not depend so much upon quantity as quality and enthusiasm. Where I have had the opportunity of visiting the county societies in my district I have tried to impress upon them the importance of more complete organization. I have tried to impress upon them the importance of paying some attention to the political end of the game as well as the scientific. I consider this particularly important at this time for the reason that our Medical Practice Act has been considered unsatisfactory and at the next session of the legislature there will be a complete new Medical Practice Act passed and I have been told that this Medical Practice Act will be just what the physicians of Illinois demand and no more. If they remain in an abject condition and let the chiropractics, the osteopaths and the Christian Scientists override them, they will get just what they deserve. If you show some enthusiasm and organization and put the fear of God in the hearts of our legislators, we will get a Medical Practice Act that we can be proud of and which will result in benefit not only to the medical profession but to the public at large.

In my questionnaire sent out to the secretaries I asked the question, "Are your members satisfied with the present dues of the State Medical Society, for the reason that I was a little anxious to know how the members took the raise from three to five dollars. They answered almost unanimously that they were. If

there are any complaints over this little matter of five dollars for dues I wish you would ask them where they can spend five dollars to better advantage or where they can get more for their money. They get a journal that they cannot get anywhere for three dollars and for the other two dollars they get medico-legal protection that they cannot get anywhere for \$25.00.

Altogether the medical condition in my District is very satisfactory. They have made some increase in numbers. There are comparatively few reputable physicians who are not already members of their respective county societies.

Dr. H. P. Beirne, Quincy, presented the following report for the 6th District:

#### SIXTH DISTRICT.

The 6th District comprises the western border of Illinois and is made up of nine counties bordering on the Mississippi. Adams County is one of the largest counties. We have societies in seven of the nine counties. In the large counties meetings are held every month and in some of the smaller counties two or three times a year. I attended all the Council meetings last year and two or three meetings in the District. We had one Council meeting last September at Alton and there were 150 doctors there. The profession over there have taken up a still hunt and made a canvass to interest the people in voting right, and I assure you that our members will see that when the Medical Practice Act comes up our District will vote right. Taking it all in all, our District is in a very prosperous and flourishing condition.

Dr. C. E. Price, Robinson, presented the following report for the 8th District:

#### EIGHTH DISTRICT

Your councilor from the 8th Councilor district offers the following report and suggestions:

Has visited a number of the council meetings during the year. Has visited a number of the county societies and believes that the interest in medical societies is growing.

There is still no organization in Richland County.

Lawrence County has become very lax in their meetings.

Jasper County, which was dead for so long, has now one of the best working societies in the district.

All of the other counties are alive and at work.

So far as reported to me, Dr. W. A. Wiseman of Camargo, in Douglas County, is the only death that has occurred during the year.

From a political and legislative standpoint, I believe the profession as a whole are more determined to fight for the safety and health of the people of the State than they ever were before.

The maternity bill passed by Congress is resented by every member of the profession and I believe has done more to get the profession aroused than any one thing, but we must remember that we are not through with this bill—that our coming legislature decides whether Illinois is to help carry this millstone, and



it will depend upon the men you send to the legislature whether we carry this burden or not.

Get busy early. Give the candidates a chance to know what the bill is. Learn in some manner or form what their opinions are regarding it and State medicine; also their opinions upon Osteopathy, Chiropractic and allied cults. Let them know that we will work to defeat any candidate, regardless of politics, who is not in sympathy with the things asked for by the profession for the good and safety of the people.

In the coming legislature there will also be put upon the Statute books a new medical practice act—teach them that some practice act should be established so that all those practicing the healing art should enter that profession through the same door—the same preliminary education, the same medical education, the same licensing examination, regardless of what branch they expect to practice.

I believe it is up to the medical profession to start a campaign of education because the majority of candidates are ignorant of the true status of things. When these candidates and legislators learn that things asked by the profession are for the safety and health of the people, they will look at these things in a different light.

In a representative district in my councilor territory there was defeated a candidate who was very much in sympathy with the Chiropractors. How much the energy put forth by the profession was responsible for his defeat I am unable to say, but assure you we did him no political good.

This coming year is going to be a hard one on the profession. Let us work and stand together as one mighty force, which we are, if we will use our influence in our several communities—work together, vote together. Forget you are a democrat or a republican when you go to the polls this fall.

Respectfully submitted,

C. E. PRICE, Councilor.

It was moved that the reports of the Councilors be approved. Seconded and carried unanimously.

Dr. Charles J. Whalen then presented the editor's report as follows:

#### EDITOR'S REPORT

During the three years that I have been honored with the editorship of THE ILLINOIS MEDICAL JOURNAL, the medical profession as well as the commercial world has confronted conditions without parallel within the memory of civilized man.

The entire structure of civilization has writhed in the convulsions that mark the after-pains of the greatest struggle for democracy and against despotism that history records. The end is not yet. Where the future leads no man can tell and few dare prophesy. Whether medicine will go down with the mob or rise like Moses and lead men and things into the peace of a near-millennium, remains for the years to tell.

In his own small way the editor has tried to make THE ILLINOIS MEDICAL JOURNAL "shout from the house-tops" the rights of the ethical medical profes-

sion. His sole ambition has been, and will continue so, to be a benefactor to the membership of this great organization. He wants to safeguard the interests of the profession and has gone the limit to do so during his editorship of the JOURNAL. He has left no stone unturned, even at the expense of some personal and business friendships, to clean up the evil conditions that menace medicine both today and tomorrow hinder the cause of science and lower the social status of the profession. As most of us know only too well, the burden of today is the effect, in a large part, of influences that have acted harmfully in the past and caused to accumulate today those problems that are a matter of acute concern.

The worst of it is that these factors and their malign activities have been merely checked and not destroyed. Further, they multiply with bacterial rapidity. The contagion of radicalism is an insidious protean affliction. Only too often it is the outgrowth of the errors of ignorance. Inelegantly but aptly rampant radicalism might be termed the *lues of medicine*. The clinical aspects and the physiological progress and the ataxic sequelae are distressingly parallel.

In the column of the JOURNAL the editor has attempted to apply a vigorous test to many of the radical morbidities that have attacked the vitals of the medical profession, and resultant the public good. For who will deny that the debauching of the medical profession is synergistic with the destruction of the public health?

Listed briefly among the nefarious schemes and the hindrances to medical integrity and progress that have been exposed in the last year in editorial columns of THE ILLINOIS MEDICAL JOURNAL are:

1. The Sheppard-Towner bill.
2. State Medicine.
3. Health Centers.
4. Workman's Compensation.
5. Group Medicine.
6. Compulsory Health Insurance.
7. The Nurse.
8. Physicians' Fees in Pay Clinics.
9. Maintenance of Indiscriminate Free Clinics.
10. Free Hospitalization.

These problems have been handled both from the viewpoint of the physician and from that of the public. The idea has been to secure the perspective necessary for the formulation of action to bring about the greatest communal benefit through efficiency and service in the prevention or the cure of disease.

If the editor's responsibilities had been only those of the JOURNAL as bestowed upon him in his official capacity, more time and effort might have been expended in the conduct of the affairs of the Illinois State Medical Society. It must be admitted that the business appertaining to this body in this connection is sufficiently strenuous and extensive to occupy the whole time and attention of several men.

From the standpoint of service the last year the editor's has been one of high pressure. Pleasant and unpleasant experiences have vied with each other.

The savor of the kindly incidents will linger as long as life shall last. The bitter is forgotten even now in the consoling belief that during the three years just ending the ILLINOIS MEDICAL JOURNAL has been an agile and vigorous agent in aiding the Illinois State Medical Society, as well as the rank and file of its members to achieve a higher economic, social and scientific status.

The editor says, and that without apology, that he feels that the tenor of the issue, month by month, and the work accomplished by the editorial department has instilled into many of the component societies an incentive for keener endeavor and for better practice which cannot fail to bring about a more hopeful outlook for general medicine.

It is gratifying to note a decided development of interest in the welfare of the society. An excellent spirit of co-operation is manifested in a number of the County societies.

And right here I want to mention the remarkable co-operative showing offered by some of the county societies in fighting the Sheppard-Towner maternity bill, and other most dangerous medical legislation that has been proposed and is not yet withdrawn altogether from the firing line.

As an offset it must be admitted that some of the constituent societies are altogether too inactive and unresponsive. There is the lethargic quiet that precedes a subtle death. They need revivification both for their own sakes and for that of the parent society. Each officer of every county society should know what are the duties of his office and should discharge them faithfully and energetically.

When this condition prevails the effect upon the profession everywhere will fall little short of the miraculous. The Illinois State Medical Society needs stirring co-operation upon the part of all the county societies.

The every-day life of the medical profession reflects only too painfully the generally upset conditions of the period of reconstruction resting so heavily upon the world at the present moment. The unrest, instability and precariousness existing in the zones of commerce during the last year leaves its hall-mark upon the doctor and his mother science. The days of adjustment and readjustment present problems peculiar to the practice of medicine as well as those problems involving the interest of the human family.

The primary solution of a large number of these questions rests with the medical profession. Indifference to them spells ruin.

Yet throughout the country there flourishes a deplorable apathy towards menacing and intricate medical problems. Thousands of physicians, dozens of medical societies, must rouse from this coma of neglect for their own interests or their stupor will be their sad undoing. It is with much pride that I state that this criticism applies less to the personnel of the Illinois State Medical society than to any other similar organization in the United States. Within the boundaries of the state of Illinois, the rank and file is beginning

to exhibit a rapid and solid interest and enthusiasm in the future of medical practice.

In spite of debilitated and convulsed economic conditions and consequent disadvantages it is a point of much satisfaction to me to be able to report that the ILLINOIS MEDICAL JOURNAL has forged ahead.

A few statistical remarks may not be amiss:

1. The ILLINOIS MEDICAL JOURNAL is the largest of the State's journals published in the United States.
2. During the past year there were printed 90,000 copies of the ILLINOIS MEDICAL JOURNAL.
3. The size of the JOURNAL was uniformly 128 pages.
4. Throughout the year the average monthly issue of the ILLINOIS MEDICAL JOURNAL was 7,600 copies.
5. The JOURNAL has become a popular medium for the publication of medical data and many of the most prominent medical men in the United States solicit the JOURNAL as a medium for the publication of scientific papers.

During the year the editor has several times called the attention of the Council to the fact that many former advertisers in the ILLINOIS MEDICAL JOURNAL were obliged because of financial stringency to discontinue their patronage of our publication. Because of the tightness of the money market, many firms who had carried page advertisements in the JOURNAL for so long a period as eight years, were compelled to drop out. Many recent advertisers found themselves in the same conditions. Dozens of concerns occupying half, quarter or eight-page space were literally forced to cancel their contracts because they did not have the money to pay for their advertising.

I am glad to say that the tide seems to be turning. Recently the advertising plight has been bettered. In March the editor inaugurated a drive for new advertisers. As a result we have in force sufficient advertising contracts to bring us up almost to where we were a year ago.

New contracts have been signed. Others are promised for the near future.

What with labor terms, the same as during the war period, print paper only slightly lower, and other market conditions ostensibly the same, it costs practically as much now to get out the JOURNAL as it did under war conditions. It is to be expected that gradually this dross of expense will decline.

The advertising income of the ILLINOIS MEDICAL JOURNAL totals about \$2,000 less than it did for the previously ending year. This is a remarkably fine showing in comparison with the general advertising situation throughout the United States. Advertising is picking up now and indubitably this loss can be wiped out during the next twelve months. Further, the books show approximately \$2,500 of collectible accounts. Firms that had advertised with the JOURNAL for years, and who found it impossible to meet their current bills, sent in voluntarily gilt-edged evidence of indebtedness in the shape of promissory notes.

Complaints from subscribers that the JOURNAL is not received regularly come to the editor of this maga-

zine as regularly as they do into every magazine office. In at least 95 per cent. of the cases the fault seems to lie with the complainants, who frequently fail to notify the office of the JOURNAL when they remove from their original headquarters or make an address change for some other reason.

The management of the JOURNAL makes every imaginable effort to keep accurate the mailing list. Each month the list is revised with care. All possible endeavor is put forth to insure the receipt of each month's copy of the JOURNAL to each member of the society.

Of course, at times, it is the fault of the magazine management that the JOURNAL fails to arrive. But investigation proves that this is only occasionally—no more often than the allowance for human fallibility would grant with justice.

Because I want this report to leave a constructive thought in the minds of the men who hear it I want to call your attention to the fact that the Illinois State Medical Society will be seventy-five years old on June 4, 1925. This means that in three years the diamond jubilee of the organization will have rolled around. Now this seventy-fifth anniversary of the Illinois State Medical society should be commemorated with a fitting celebration. The complete history of this society should be prepared and presented at that time. The Illinois State Medical society was incorporated June 4, 1850, and during the intervening years it has carried on continuously its faithful labors. From the ranks of this organization have come some of the most conspicuous men in the life of American medicine.

The history of the Illinois State Medical society is so largely a chronicle of much that is essential to the history of medicine in the United States that right here I want to make a pertinent suggestion. At this meeting we should take steps to arrange for a compilation of the history of this association from the date of its founding, and including the events that led to this organization, straight through to the date of the Jubilee celebration three years from now, or in the summer of 1925.

This necessary task can not be put under way at too early a date.

(Signed) CHAS. J. WHALEN.

Dr. Pfeifferberger moved the adoption of the Editor's report and of the Editor's recommendation regarding the celebration of the Diamond Jubilee of the Illinois State Medical Society. Seconded and carried.

The next order of business was the report of the Medico-Legal Committee. The chairman, Dr. C. B. King, made the following report:

REPORT OF MEDICO-LEGAL COMMITTEE  
*Members of the House of Delegates, Illinois State Medical Society:*

The Medico-Legal Committee desires to report the following:

Since May 1, 1921, there have been filed in the

State 45 new suits, of which 11 were in the Superior Court of Cook County, 14 in the Circuit Court of Cook County, 3 in the Municipal Court of Cook County and 12 in other counties throughout the State, with Bureau County, 1; Henry County, 1; LaSalle County, 1; Macoupin County, 1; McLane County, 1; Peoria County, 3; Piatt County, 2; City Court of East St. Louis, 2; Appellate Court, 4; United States District Court, Northern District of Illinois, 1; total, 45.

Cases disposed of since May 1, 1921: Circuit Court of Cook County, 5; Superior Court of Cook County, 8; Municipal Court of Chicago, 3; Lake County, 3; LaSalle County, 1; Macoupin County, 1; McLean County, 1; Piatt County, 2; Rock Island County, 1; District Court of Scott County, Iowa, 1; total, 24.

There have been filed since May 1, 1921, claims or threats of suit to the number of 80, 45 of which have thus far become suits, leaving 35 on which suits have not yet been filed.

There were pending on May 1, 1921, 66 suits; filed since May 1, 1921, 45; total, 111. Suits disposed of since May 1, 1921, 24, leaving remaining 87.

The total expense of the suits, trials, attorneys' fees, etc., since May 1, 1921, to May 1, 1922, \$8,213.38.

There has been an increase, particularly in Cook County, of about 50 per cent. in the suits filed in 1921 over 1920. Other counties throughout the State remain in about the same ratio as formerly.

As to the cause of the increase in these suits, the committee have no definite theory, but as is well known many cases developed because of some doctor being too free with his tongue.

Aside from the cases of which we have records, there have been handled by the various casualty companies approximately 40 suits, cases of which we have no record. As to the amount of money that has been spent in settlement of cases by the various casualty companies, we have no definite record, but to the best of our information it is in the neighborhood of \$15,000.

The Committee understands that there is some propaganda on foot in the A. M. A. to take over the defense of all the States and unite them under one head. Your Committee feels as a whole that this would be a bad policy, and suggests that the delegates to the A. M. A. from Illinois fight such a proposition should it come upon the floor of the house of delegates to the A. M. A. because we feel that we have an organization that is working very harmoniously and is giving results to the doctors of this State at a comparatively minimum expense. In the past year no cases have been decided adversely in which the Committee's attorneys handled the case throughout. Seven cases of which we have knowledge were settled out of court by casualty companies. One case, your Committee, through its attorneys, recommended a settlement which was paid by the doctors themselves. The case was a fracture case in which a circular cast was applied, left on a considerable length of time with resultant atrophy, stiffness of joints and a very bad



result in which we felt that we were sure to be defeated in suit.

Respectfully submitted,

C. B. KING,  
R. L. GREEN,  
GEORGE STACEY,  
J. R. BALLINGER,  
C. A. HERCULES,  
T. D. CANTRELL.

It was moved that the report of the Committee be accepted. Seconded.

Dr. W. F. Grinstead, in discussing the report, said he felt that compromises made by insurance companies to save their own skin ought not to be made. He believed that the merits of these cases ought to be investigated by this Committee; if it is a case of real negligence then it is well enough to compromise.

The motion to accept the report of the Committee was carried.

There was no report from the Committee on Public Health.

Regarding the report from the Committee on Medical Education and Hospitals, Dr. Nagel said that the last Supreme Court made it unnecessary for this committee to functionate any longer.

Dr. W. H. Gilmore moved that the House of Delegates adjourn until 9:30 A. M. Thursday, May 18. Seconded and carried.

#### *Second Session—Thursday, May 18, 1922.*

The House of Delegates was called to order at 10 o'clock Thursday, May 18, by the President.

The secretary read the roll-call and announced that a quorum was present.

The minutes of the last session (Tuesday, May 16) were read by the secretary. It was moved that the minutes be accepted as read. Seconded and carried.

The first order of business was the election of officers for the coming year. There being no objections the Chair ruled that nominating speeches would be eliminated.

Dr. Charles J. Whalen, Chicago, nominated Dr. Edward H. Ochsner, Chicago, for president-elect. Dr. H. N. MacKechnie, Chicago, seconded the nomination.

It was moved that the nominations be closed and the secretary cast the ballot for the unanimous choice of Dr. Edward H. Ochsner, Chicago, for president-elect. Motion seconded and carried. The ballot was so cast and the president declared Dr. Ochsner elected.

Nominations for first vice-president being in order, Dr. Emmet Keating, Chicago, nominated Dr. Frank R. Morton, Chicago. Seconded. It was moved that the nominations be closed and that the secretary cast one ballot for the unanimous election of Dr. Morton for vice-president. Motion seconded and carried. The ballot was so cast and the president declared Dr. Morton elected.

Nominations for second vice-president being in order, Dr. W. F. Grinstead, Cairo, nominated Dr. W. E. Shastid, Pittsfield. Seconded. It was moved that the nominations be closed and the secretary cast the ballot for the unanimous election of Dr. Shastid. Motion seconded and carried. The ballot was so cast and Dr. Shastid declared elected.

Nominations for secretary being in order, Dr. W. D. Chapman, Silvis, was nominated. Seconded. It was moved that the nominations be closed and the secretary cast one ballot for the unanimous election of Dr. Chapman. Motion seconded and carried. The ballot was so cast and Dr. Chapman declared elected.

Nominations for treasurer being in order, Dr. C. E. Price, Robinson, nominated Dr. Andrew J. Markley, Belvidere, for treasurer. Seconded. It was moved that the nominations be closed and the secretary cast one ballot for the unanimous election of Dr. Markley. Motion seconded and carried. The ballot was so cast and Dr. Markley declared elected.

Nominations for councilors being in order, Dr. J. W. Van Derslice, Chicago, nominated Dr. J. S. Nagel, Chicago, for councilor of the Third District to succeed himself. Seconded. It was moved that the nominations be closed and the secretary cast the ballot for Dr. Nagel. Motion seconded and carried. Ballot was so cast and Dr. Nagel declared elected.

Dr. H. M. Camp, Monmouth, was nominated for councilor of the 4th District to succeed W. D. Chapman, Silvis. Seconded. It was moved that the nominations be closed and the secretary cast one ballot for the unanimous election of Dr. Camp. Motion was seconded and carried. The ballot was so cast and Dr. Camp declared elected.

Dr. C. S. Nelson, Springfield, was nominated for councilor of the 5th District to succeed himself. Seconded. It was moved that the nominations be closed and the secretary cast one ballot



for the unanimous election of Dr. Nelson. Motion was seconded and carried. The ballot was so cast and Dr. Nelson declared elected.

Dr. Lee Frech, Decatur, was nominated for councilor of the Sixth District to succeed Dr. C. F. Burkhardt, Effingham. Seconded. It was moved that the nominations be closed and the secretary cast one ballot for the unanimous election of Dr. Frech. Motion seconded and carried. The ballot was so cast and Dr. Frech declared elected.

Nominations for delegates to the American Medical Association being in order, the following were nominated: Drs. Walter Wilhelmj, East St. Louis; Charles J. Whalen, Chicago; T. O. Freeman, Mattoon; George H. Mundt, Chicago; Edward H. Ochsner, Chicago, and D. G. Smith, Freeport. As there were only five to be elected, the name of Dr. D. G. Smith was withdrawn and the first five nominations seconded. It was moved that the nominations be closed and the secretary cast the ballot for Walter Wilhelmj, Charles J. Whalen, T. O. Freeman, George H. Mundt and Edward H. Ochsner as delegates to the American Medical Association. Motion seconded and carried. The ballot was so cast and the above-mentioned nominees were declared elected.

Nominations for alternate delegates being in order, the following were placed in nomination: Drs. George L. Apfelbach, Chicago; Mather Pfeiffenberger, Alton; C. S. Skaggs, East St. Louis; R. Emmet Keating, Chicago, and F. E. Maple, Chicago. Seconded. It was moved that the nominations be closed and the secretary cast the ballot for George L. Apfelbach, Mather Pfeiffenberger, C. S. Skaggs, R. Emmet Keating and F. E. Maple as alternate delegates to the American Medical Association. Motion seconded and carried. The ballot was so cast and the above-mentioned nominees were declared elected.

Nominations for the committee on public policy being in order, Drs. R. Emmet Keating, Chicago; Warren Johnson, Chicago, and W. P. Cannon, Kankakee, were nominated. Seconded. It was moved that the nominations be closed and the secretary cast the ballot for Drs. R. Emmet Keating, Warren Johnson and W. P. Cannon for members of the committee on public policy. Motion seconded and carried. The ballot was so

cast and the above-mentioned nominees declared elected.

Nominations for the committee on medical legislation being in order, the following were nominated: Drs. John R. Neal, Springfield; Edward Bowe, Jacksonville, and Charles E. Humiston, Chicago. Seconded. It was moved that the nominations be closed and the secretary cast the ballot for Drs. Neal, Bowe and Humiston as members of the committee on medical legislation. Motion seconded and carried. The ballot was so cast and the above-mentioned nominees declared elected.

Nominations being in order to fill two vacancies on the medico-legal committee, Drs. C. B. King, Chicago, and W. R. Grinstead, Cairo, were nominated. Seconded. It was moved that the nominations be closed and the secretary cast the ballot for the unanimous choice of Drs. C. B. King, Chicago, and W. F. Grinstead, Cairo, were Medico-legal committee. Motion seconded and carried. The ballot was so cast and Drs. King and Grinstead declared elected.

Nominations being in order for members of the committee on medical education and hospitals, it was moved that the list as read, consisting of Drs. R. T. Hinton, Elgin; C. U. Collins, Peoria; M. L. Harris, Chicago; J. S. Nagel, Chicago, and J. V. Fowler, Chicago, be continued, all members nominated, and the secretary be instructed to cast the ballot for their election. Motion seconded and carried. The ballot was so cast and the above-mentioned nominees declared elected.

Nominations being in order for members of the committee on relations to public health administration, Dr. W. H. Gilmore moved that the entire vote of the House of Delegates be cast for the list as read, consisting of Drs. A. M. Geiger, Chicago; H. M. Camp, Monmouth; J. H. Walsli, Chicago; H. N. MacKechnie, Chicago, and E. W. Fiegenbaum, Edwardsville. Motion seconded and carried. The ballot was so cast and the above-mentioned nominees declared elected.

The next order of business was the vote on the per capita tax. Dr. W. H. Gilmore, Mt. Vernon, moved that the per capita tax of five dollars be continued. Seconded and carried.

The next order of business was to decide on a meeting for 1923. Dr. Lee Frech, Decatur, presented an invitation from the Chamber of Commerce, Decatur, inviting the Illinois State Med-

ical Society to meet in Decatur in 1923. Dr. Frech moved that the next meeting be held in Decatur. Seconded.

Dr. J. W. Van Derslice, Chicago, moved as a substitute motion that inasmuch as the Medical Practice Act would be before the State Legislature in 1923, it was advisable for the State Society to meet in Springfield at this time and therefore that the decision as to the meeting place for 1923 be left in the hands of the Council. Motion seconded by Dr. A. A. Hayden.

Dr. Humiston said that the Constitution and By-Laws provided that the place of meeting be fixed by the House of Delegates, but this ruling could be changed by motion.

The motion that the place of meeting be left to the Council without prejudice against Decatur was carried.

It was moved that a vote of thanks be extended to the Chamber of Commerce of Decatur and to the doctors who extended the invitation. Seconded and carried.

Under new business Dr. J. S. Nagel, Chicago, offered the following motion: "I move the approval by the House of Delegates to the recommendations of the president in his annual address that the State Society cooperate with the State University in a campaign of education of the public in medical matters." Motion seconded and carried.

Dr. J. W. Van Derslice, Chicago, moved that the Society take action on the recommendation of the Editor in regard to the celebration of the Diamond Jubilee of the Illinois State Medical Society. Motion seconded by Dr. A. A. Hayden and carried.

The next order of business was the report of the committee on resolutions by the chairman, Dr. H. N. MacKechnie, Chicago. The following resolutions were presented:

## RESOLUTIONS

### STATE MATERNITY LAW

1. WHEREAS, there is a possibility that the Illinois State Legislature may pass a law concurring in the Shepard-Towner Law and accepting the responsibilities therewith, and

WHEREAS, the Illinois State Medical Society does not believe that such a law would be in the best interest of the people of the State nor of the profession, therefore be it

*Resolved*, that the Delegates of the Illinois State Medical Society, now in session, go on record most emphatically against such enabling legislation and that

we call on our legislators to oppose any such legislation if presented.

Dr. McKechnie moved the adoption of the resolution. Seconded and carried.

### UNFAIR ENFORCEMENT OF NARCOTIC LAW

WHEREAS, the Collector of Internal Revenue at Springfield has made a ruling on the Harrison Narcotic Law as applied to the licensing of drug rooms in hospitals, purporting to be based on a ruling of the Attorney General of Illinois on the Pharmacy Law, which ruling is that if drugs are compounded, dispensed or sold in a drug room in a hospital by a person other than a physician, then a registered pharmacist must be in charge; and

WHEREAS, such ruling will effect a hardship on many small hospitals where no graduate physician is in residence and where they have work for a pharmacist for only a short time each day as well as on groups of physicians who have a common dispensary, and

WHEREAS, the alternative for the present condition is the dispensing by the physician of what drugs he needs in the hospital and the making of many night calls to the hospital with necessary drugs in emergency and

WHEREAS, the lack of emergency drugs in the hospital which can be ordered over the telephone would produce at times serious complications and results for patients; therefore be it

*Resolved*, that the Illinois State Medical Society protest such action of Internal Revenue and suggest that a broader and more reasonable interpretation of the Act be construed, such as would eliminate the dangers and hardships of the present ruling, and be it further

*Resolved*, that the attorney of the Illinois State Society be instructed to take the matter up with the Attorney General of the State to secure if possible an interpretation of the Illinois Pharmacy Law which would be equitable and reasonable and subsequent to this the secretary of the Society communicate with our senators and congressmen, and through them with the department of Internal Revenue for a more equitable and reasonable interpretation of the Harrison Narcotic Law, and be it further

*Resolved*, that the action of this Society be communicated to the American Hospital Association and the Catholic Hospital Association.

Dr. MacKechnie, in explaining the resolution, said there was one thought which the committee felt might be left out, that was in connection with the selling of drugs in hospital that the word "sold" might be left out, but as it is included in the Illinois Pharmacy Law is was a question whether it should be left out.

Dr. J. W. Van Derslice said he would like to change the resolution to read instead of "communicate with our senators and congressman," to "that it be referred to the Committee on Nar-

cotics," then later have the Chicago Medical Society get a ruling on the law which could be transmitted to the State Society Committee.

Dr. MacKechnie said the Committee thought it was better the way it read because it was believed that if an interpretation on the Illinois Pharmacy Law could be obtained from the Attorney-General and then a ruling obtained from the Internal Revenue Department, no trouble would be experienced in getting the matter straightened up.

The motion to adopt the resolution as read originally was seconded and carried.

#### U. S. INVESTIGATION OF NARCOTIC PROBLEM

*Resolved*, That the Illinois State Medical Society, now in session at Chicago, Illinois, approve House Resolution No. 258 (House of Representatives, Washington, D. C.), providing for a select committee of fifteen to inquire into the subject of Narcotic conditions in the United States. The personnel of this committee to include all doctors who are now members of the House of Representatives; be it further

*Resolved*, That this Society endorses the position taken by Hon (Dr.) Lester D. Volk, the propounder of Resolution 258, which position he has so ably and admirably sustained in a speech delivered in the House of Representatives on Jan. 13, 1922. Be it further

*Resolved*, That a copy of these resolutions be sent to the Senators and Representatives of Illinois in Congress and that they be requested to use their best efforts to bring about the adoption of the resolution presented by Hon. Lester D. Volk.

*Be it Further Resolved*, That the delegates from the Illinois State Medical Society to the American Medical Association at St. Louis, Missouri, be and are hereby instructed to present this resolution to the House of Delegates to the A. M. A., at its coming meeting, May 22 to 26, at St. Louis, and to use every honorable means to secure its adoption.

Dr. MacKechnie moved the adoption of the resolution. Seconded and carried.

*To the House of Delegates, Illinois State Medical Society:*

#### AMEND JURISPRUDENCE LAW

The Public Relations Committee of the Chicago Medical Society offers the following resolution as An Act to amend an act entitled "*An Act to revise the law in relation to Criminal Jurisprudence*" to amend section 96 of the said act now reading as follows:

"Whoever, with intent to cheat or defraud another, designedly by color of any false token or writing, or by any false pretense, obtains the signature of any person to any written instrument, or obtains from any person any money, personal property or other valuable thing, shall be fined in any sum not exceeding \$2,000, and imprisoned not exceeding one year, and shall be sentenced to restore the property so fraudulently obtained, if it can be restored. No in-

dictment for the obtaining of any property or thing by any false pretense or pretenses shall be quashed, nor shall any person indicted for such offense be acquitted, for the reason that the facts set forth in the indictment, or appearing in evidence, may amount to a larceny or other felony; nor shall it be deemed essential to a conviction, that the property in the goods or things so obtained shall pass with the possession to the person so obtaining it."

By making the same read as follows:

"Whoever, with intent to cheat or defraud another, designedly by color of any false token or writing, or by any false pretense, obtains the signature of any person to any written instrument, or obtains from any person any money, *personal services*, personal property or other valuable thing, shall be fined in any sum not exceeding \$2,000, and imprisoned not exceeding one year, and shall be sentenced to restore the property so fraudulently obtained, if it can be restored. No indictment for the obtaining of any property or thing by any false pretense or pretenses shall be quashed, nor shall any person indicted for such offense be acquitted, for the reason that the facts set forth in the indictment, or appearing in evidence, may amount to a larceny or other felony; nor shall it be deemed essential to a conviction, that the property in the goods or things so obtained shall pass with the possession to the person so obtaining it."

The Public Relations Committee  
of The Chicago Medical Society.

J. C. KRAFFT,  
J. L. NORTELL,  
F. J. JIRKA.

16 May, 1922, Chicago.

Dr. MacKechnie moved the adoption of this resolution. Seconded by Dr. A. A. Hayden, with the comment especially to the men from downstate that it is believed that this resolution is a very long step in the control of medical politics. It has been worked out by Dr. Krafft and has been pronounced feasible by Dr. Folonie. Motion carried.

#### EDUCATION OF THE PUBLIC

WHEREAS, there have developed many sects claiming superiority in methods of healing, over those of established tested medical practice, and,

WHEREAS, these sects have sought and are seeking to gain converts to their methods of treatment by public advertisements; and,

WHEREAS, many people who are not conversant with the real facts are influenced by the statements in their advertisements; and,

WHEREAS, these same and many other people through lack of knowledge of the facts concerning what medical science has done and is doing are accepting as the truth these statements made by the various sects, and

WHEREAS, the ethics of the profession consider the

use of the public press by the individual to be not in good taste, and

WHEREAS, it appears timely that the public be enlightened on the truths and principles contained in the development, progress and present status of Medicine, therefore be it

*Resolved*, That the House of Delegates of the Illinois State Medical Society go on record as endorsing a broad plan of publicity through pamphlet, addresses, and the lay press, any or all; and as suggesting, to the President the need of the appointment of a publicity committee; and to the Council of the Society that provision be made for the support of such Committee and its work.

Dr. MacKechnie moved the adoption of this resolution. Motion seconded and carried.

#### MEDICAL MEN SHOULD SUPERVISE ENFORCEMENT OF HARRISON LAW

WHEREAS, the enforcement of the Harrison Narcotic Law affects, in a direct and intimate manner, more physicians than any other one class of persons who are required to register under its provisions; and

WHEREAS, the business and profession of the practice of medicine is a highly specialized vocation, wherein are involved many practices, customs, duties, difficulties and privileges having the sanction of many years' duration and of the best scientific thought; and

WHEREAS, the before-mentioned practices, customs, duties, etc., are known to and understood by only those who are engaged in said practice of medicine, and by their very nature are almost unknown to most laymen, or non-medical persons; and

WHEREAS, the subject of narcotic addiction is in itself a difficult subject, and almost impossible of being understood by a person without scientific training; and

WHEREAS, the enforcement of the Harrison Narcotic Law up to the present time has been very unsatisfactory in certain aspects, and has been provocative of much embarrassment, uncertainty and misunderstanding to physicians, as well as hardship and suffering to some deserving sick who are obliged to use narcotics; therefore be it

*Resolved*, that it is the sense of this body that a medical man should pass upon and examine alleged infractions of the law by physicians and druggists before legal processes are instituted; and further, be it

*Resolved*, that the Commissioner of Internal Revenue be requested to appoint as his Deputy Commissioner for Narcotics, or as Head of the Narcotic force, a physician or Medical Doctor who is familiar with the subject of narcotic addiction, and is also reasonably familiar with the conditions of medical practice in both urban and rural communities.

C. J. WHALEN.

Dr. MacKechnie moved the adoption of this resolution. Seconded.

Dr. Beirne said the words "know nto a few only" in the fourth paragraph should be

omitted and asked if it were meant in a general sense or taking the citizenry as a whole.

Dr. MacKechnie said it meant the citizenry as a whole.

Dr. Beirne said the idea would be carried out just the same if these three words were omitted.

The President then asked Dr. MacKechnie to re-read the resolution.

Dr. C. B. King said the thought was covered by the balance of the sentence.

Dr. S. J. O'Neill, Chicago, said that it was not in the matter of treating addiction that the Bureau of Internal Revenue has made some unjustifiable rules but in the ruling sent out under date of February 22nd to the effect "that doctors shall describe on their prescriptions in suitable terms the exact nature of the ailment for which the narcotic is intended." That would mean if I were to call to prescribe for a patient with a threatened abortion that I would have to write that on the prescription if I prescribed a narcotic.

Dr. Humiston asked if that matter was covered in the resolution.

Dr. MacKechnie said it was not covered.

Dr. O'Neill asked if a matter like that would be covered in the resolution.

Dr. King said the ruling has been withdrawn.

Dr. Nagel said there was a ruling in the office of the Chicago Medical Society from the Director of Internal Revenue stating that it is not necessary to place on each prescription the purpose of the narcotic prescribed, but it would show the good feeling of the physician to do this when he prescribed a narcotic without the admixture of any drug.

Dr. O'Neill insisted that no notice of the withdrawal of this ruling had been sent to the druggists. The Chairman of the Retail Druggists' Association said that that ruling is still in force.

The motion to adopt this resolution was carried.

#### REPORT OF THE COMMITTEE ON HEALTH INSURANCE

Your committee wishes to reaffirm and re-emphasize the reports made at the annual meetings of the society from 1917 to 1921, inclusive, and is glad to be able to report that the stand taken by the Illinois State Medical Society has had much to do with checking the Compulsory Health Insurance propaganda. In the recent past Compulsory Health Insurance has received a number of knockout blows which if they have not resulted in its death have at least put it in



a deep coma. However, before Compulsory Health Insurance went into coma or expired the beast gave birth to a litter answering to the name of State or County Subsidized Health Centers, Rural hospitals under University control, State Medicine, and the Sheppard-Towner Bill. These, aided and abetted by other evils such as the abuse of medical charities, which in its tendency to undermine the character and moral standard of the public who are receiving this gratuitous service, will eventually, if not checked, result in the socialization of medicine, the enslavement of the medical profession and the pauperization of the public. Of the latter evils we refer to the American Public Health Service and the proposed Fitzgerald Bill, in which the federal government proposes to render free medical service to all federal employees in the District of Columbia.

#### RESOLUTION ON STATE SUBSIDIES

WHEREAS, David Kinley, President of the University of Illinois, has gone definitely on record against State Subsidies or what is known as the fifty-fifty plan or Federal aid to States in the following language: "It is strange to me that so many people even in a State like Illinois, have regarded this scheme as beneficent. The federal government takes a dollar from Illinois, returns perhaps twenty cents of it, on condition that Illinois will furnish another twenty cents, and then permits the agents of the federal government a thousand miles away to tell her what to teach her children and how to teach it."

The present tendency in all this legislation is likely to destroy that system of checks and balances which is the very essence of our form of government. We are drifting towards a political system which will lodge authority in practically all matters of public importance in the hands of the federal government, and leave the states themselves and many of the communities in the states, dependent upon action from Washington, and powerless to do otherwise, because the federal government will have taken all the means at hand to do the things in question.

This drifting not only tends to produce disrespect for law, but it continually weakens the sense of duty and responsibility of the individual citizen. A long continuance of such a process will result in time in imposing on the people, even in a democracy, governmental and bureaucratic control over a large part of their lives and actions, and

WHEREAS, the viciousness of bureaucratic control of medical affairs is exemplified in what is known as the Sheppard-Towner Maternity Act. Therefore, be it

*Resolved*, that we highly approve of the attitude of President David Kinley of the University of Illinois, and be it further

*Resolved*, that the House of Delegates of the Illinois State Medical Society is opposed to the creation by Congress of any new federal "Aids" grants, or subsidies, toward the expense of State and local governments.

#### STATE HOSPITAL RESOLUTION

WHEREAS, there is a disposition on the part of the University management of several states to take over,

supervise, control or enter into the practice of medicine in competition with the physicians of the respective states, and

WHEREAS, the original prospectus of the University of Illinois outlined a hospital similar to the Cook County Hospital in Chicago, outlining a plot covered with hospital buildings which, measured by comparison with Cook County Hospital, would imply a capacity of between three and four thousand patients, and

WHEREAS, it is believed by a goodly portion of the medical profession that it is the intention of the President of the University of Illinois and the Medical department of same to ask the next or a future legislature to transfer the custody of this hospital property to the University, which would mean that the University of Illinois would enter into the general practice of medicine in competition with its own alumni as well as the alumni of other medical schools, which we believe would not be to the best interest of the people and the medical profession, and

WHEREAS, such unfair competition can be easily avoided if such hospital is properly organized and derives its patients from the proper source, and

WHEREAS, proper organization of such hospital would redound to the benefit of all the citizens of the state and particularly the sick, therefore be it

*Resolved*, that the Illinois State Medical Society recommend that the said hospital utilize its beds only for the inmates of the state and county, penal and charitable institutions, always giving preference to those patients which require the attention of properly qualified specialists and a study of whose diseases will qualify the students, the future practitioners of medicine, to best serve the public.

#### PHYSICIANS FOSTERING SOCIALISTIC SCHEMES

WHEREAS, certain medical men have in the recent past thoughtlessly lent their names to dangerous socializing propaganda and un-American schemes, therefore be it

*Resolved*, that the House of Delegates of the Illinois State Medical Society urge its members to thoroughly investigate any new schemes proposed to them before they give their approval to the same.

#### STATE RIGHTS RESOLUTION

*Be it further Resolved*, that the House of Delegates of the Illinois State Medical Society go on record as being in favor of states rights and express its disapproval of the attempt by the Federal Government to assume the functions and duties that legitimately belong to the several states, and that the said House of Delegates go on record as being unequivocally opposed to the Fitzgerald Bill and to the Sheppard-Towner Bill and that it recommend to the State Legislature of the State of Illinois and to the governor that the State of Illinois refuses to cooperate with the Federal Government in reference to the Sheppard-Towner Bill, and be it further

#### STATE MEDICINE RESOLUTION

*Resolved*, that the delegates of the Illinois State Medical Society to the House of Delegates of the American Medical Association be and are hereby in-

structed to most emphatically oppose State and Federal Medicine or any scheme under the guise of "Health Centers," "Group Medicine," "Diagnostic Centers," howsoever named, under the direction, custody or control of the City, County, State or National Government; and to define the legitimate medical function of organized society as sanitation and public hygiene; the teaching of personal hygiene; teaching of medical students; medical research; rendering medical services to the enlisted men and officers of the army and navy; rendering medical services to the inmates of the charitable and penal institutions of the nation, the state and its political subdivisions; and rendering medical services to the indigent; and defining as unworthy of the approval and support of the American Medical Association any other medical function by the Federal Government, the State, or any of its political subdivisions, and that the delegates from the Illinois State Medical Society to the American Medical Association be and are hereby instructed to present this resolution to the House of Delegates to the American Medical Association at its meeting May 22 to 26 at St. Louis and to use every honorable means to secure its adoption.

Dr. MacKechnie moved the adoption of the resolution. Seconded.

Dr. Humiston said the resolutions were somewhat lengthy and the motion was very short to adopt these resolutions. It occurred to the Chair that the President of the University was being criticized for his presumed intention and that happens to be in conflict with his declared intention, as your Chairman knows, with reference to the practice of medicine in this hospital. The position of this Society should be unmistakable in anything of that kind, such as happened in Michigan, and we should state our position in unmistakable terms.

Dr. Beirne said he happened to be a delegate to the American Medical Association and he would hesitate about going to the meeting with a resolution with such language as calling men "vicious pups." This is not courteous. He moved the words "vicious pups" be stricken from the resolution.

Dr. Mundt said the men who wrote the resolution did not call any men "vicious pups"; it reads, "the beast gave birth to a litter of vicious pups." Personally I would like to see the words "vicious pups" eliminated.

Dr. C. A. Earle said this was a sort of omnibus bill which should be studied very carefully before being adopted. There certainly should be some kind of limiting phrase used when you speak of "being opposed entirely to any Federal subsidies." If this is limited to medical work that is all right.

The Government makes many subsidies; for instance, in the investigation of diseases of plants and other matters.

Dr. M. L. Blatt said he agreed with Dr. Earle in the omnibus feature of this resolution. He thought it was entirely wrong to have a resolution including a number of topics passed as a whole. He thought that each one of these topics should be taken up as a separate resolution and acted upon as a separate measure.

Dr. L. H. Nickerson, Quincy, said it was a very complicated matter and no one understood much about it; therefore he believed it should be referred to the Council.

Dr. C. B. King said there was not sufficient time to refer it to the Council.

Dr. Beirne moved that each paragraph be taken up separately.

Dr. MacKechnie said it was a series of about three resolutions; each resolution could be taken up separately. They are merely three resolutions which came under the report of the Committee on Health Insurance. He said if it were the wish of the meeting each resolution could be taken up separately.

Dr. Beirne's resolution that each paragraph be taken up separately was seconded and carried.

It was moved that the Chairman of the Committee reread the resolution.

Dr. MacKechnie read the preamble and said in explanation of Dr. Beirne's question that the expression "vicious pups" referred to Health Insurance.

Dr. Ballenger moved that the phrase "vicious pups" be stricken from the resolution. Dr. MacKechnie as Chairman of the Committee agreed to take out these words without formal action.

Dr. MacKechnie then read the first resolution in the report, beginning with "Whereas, David Kinley, President of the University of Illinois, ——" and ending with "aids, grants, or subsidies, toward the expense of state and local government." (For the full resolution see page 77.)

Dr. C. J. Whalen moved the adoption of this resolution. Seconded.

Dr. Beirne called attention to the phrase "new" federal "aids," in the last paragraph and suggested that the word "new" be omitted.

Dr. Edward H. Ochsner said that one reason the word "new" should be left in was because along about 1860 the Federal Government gave grants to states to set aside certain areas which

later became the basis of our agricultural colleges. For this reason the Society cannot go on record on opposing those grants; it must read "new" grants, etc.

Dr. C. A. Earle asked if a Federal grant has been made in the past, was there any reason why it should not be made in the future. He was strongly opposed to the resolution.

The motion to adopt this resolution was carried.

Dr. MacKechnie then read the second resolution, beginning with the words, "Whereas, there is a disposition on the part of the University management —," and ending with the words, "the future practitioners of medicine to best serve the public." (For the full resolution see page 77.)

Dr. MacKechnie moved the adoption of the resolution. Seconded.

Dr. M. L. Blatt said the limitation to state and county penal and charitable institutions was going to work a great hardship on the people outside. As a member of the staff of the Illinois Charitable Eye and Ear Infirmary he knew that a large proportion of the patients in this institution did not come from state institutions. It is just to take care of such patients that the doctors from downstate bring in personally that the hospital of the University of Illinois was established. He believed that patients sent to such an institution should be those whom the doctors in the neighborhood know to be absolutely indigent.

Dr. Beirne said he thought the doctors downstate were able to take care of patients in institutions without leaving any door open. He said he was at the Radium Institute of Buffalo last fall and noted that prosperous people were coming in there for free treatment. He was in favor of the resolution.

Dr. Humiston said this resolution contained the presumption that he had referred to early. A resolution had just been adopted expressing pleasure in the idea of Dr. Kinley, President of the University of Illinois. He knew that Dr. Kinley would not countenance any move that would set the State University in competition with the doctors of this state. Wherever that expression came from it had arrived.

Dr. Edward H. Ochsner said he was sure if President Humiston read this resolution in his study he would see instantly that the Committee

only presumed that the State University would soon take over this hospital. The Committee did not presume for one minute that he would enter into unfair competition. He said further that eight years ago as President of the Illinois State Charities he conferred with President James, then President of the University of Illinois, and told the latter that the state charitable institutions and state universities did not cooperate properly and urged that the State build a central hospital for the purpose of giving expert service to the indigent of the State of Illinois. President James concurred in the proposition and appeared before the Senate and House Committees urging the establishment of a central hospital. The proposition was adopted but at that session of the legislature no appropriation was made. Two years later the appropriation was made. At that time it was said that such a hospital would enter into unfair competition with practitioners of medicine. The State Charitable Service, with its 25,000 inmates, needed a central hospital where the unusual cases could be treated by specialist. The legislature agreed with that proposition. They are now ready to take over this hospital, to which the Committee does not object, but the Committee does object to this hospital being used by some other administration to compete with the doctors from downstate and from this city. This hospital should get its patients from the poor of the state who need special care. The county will pay for the patient's care in a state hospital and the state hospital will have to take that patient. He said further that the profession should be sure that the things that happened in Michigan and Ohio did not happen in Chicago. Last year in the Surgical Clinic in Detroit \$75,000 that was collected from pay patients by the Professor of Surgery was turned back into the State Treasury, the other \$25,000 collected was paid to him as salary. The same thing happened in Cincinnati. Now is the time to prevent that kind of a thing. There is no accusation in this resolution; it is simply recommended that if the University takes over this hospital it should take its patients only from those who are vouched for by the state, county or township commissioner of the poor. Dr. Ochsner did not think there was one word in that resolution to which any reasonable man could take objection.

Dr. Humiston said this talk of Dr. Ochsner was very agreeable. He asked that the resolution be read again.

(Dr. MacKechnie reads the resolution.)

The motion to adopt this resolution was carried.

Dr. MacKechnie then read the third resolution, beginning with "Whereas, certain medical men have —," and ending with "give their approval to the same." For full resolution see page 77.)

It was moved that this resolution be adopted. Seconded and carried.

Dr. MacKechnie then read the last part of this resolution, beginning, "Be it further resolved, that the House of Delegates of the Illinois State Medical Society —," and ending with "to use every honorable means to secure its adoption." (For full resolution see pages 77-78.)

It was moved that this resolution be adopted. Seconded and carried.

#### AMEND WORKMEN'S COMPENSATION ACT

WHEREAS, the Workmen's Compensation Act of Illinois in its present reading gives the right to the employer to select a physician of the employer's choice to administer treatment to the injured, and

WHEREAS, this service could just as efficiently be performed by the family physician who from long acquaintance with the family and successful treatment of its members would inspire greater confidence and ease of mind in the patient to sustain him in his illness, therefore be it

Resolved, that this convention go on record as endorsing the amendment of the Illinois Workmen's Compensation Act introduced at the last session of the State legislature providing for the right of an injured workman to select a physician of his own choice in case of accident.

EUGENE J. O'NEILL.

Dr. MacKechnie moved the adoption of this resolution. Seconded.

Dr. Frank R. Morton, Chicago, said he did not want to oppose this resolution, but as he was an industrial surgeon he wished to state his opinion of the resolution. He said the Standard Oil Company allowed their employees to select their own physicians. On going before the compensation board they always ask the doctors to come in and tell their story, but the doctors are not always fair. The result is that the Standard Oil Company at Carlinville had to hire a doctor to look after their work. Because the doctors will not come out and say what they think is the reason why corporations are insisting on having their own doctors.

Dr. C. B. King said he knew how many of the general practitioners felt about corporations and as a result they were attempting to treat serious conditions, such as eye injuries, without being capable of so doing.

Dr. Henry O. Bruning said the corporations were not so conscientious about the care of their patients. They allowed a nurse who is not more competent than a general practitioner to treat and examine their patients. He believed the general practitioner was as honest as the corporation, if not more so.

Dr. W. H. Gilmore said he was opposed to this legislation and must vote against it. He knew nothing about conditions in Chicago, but he knew about them in the coal country. If the State Society passes this resolution it will work a hardship to the men themselves. A man could not be an industrial surgeon in the coal fields if he was not competent.

Dr. W. H. Chapman, Silvis, thought the resolution was entirely useless if passed. The viewpoint of the corporations is a thing the medical profession should not neglect to get. They are entitled to consideration and they have their own problems to work out, and the profession will get very much better results if its members get together on points that come before the corporations.

Dr. Gale said he was opposed to the resolution. It seemed to him the most unfair thing the state could do would be to force companies to pay for services and then have nothing to do with the men who rendered the service. In Central Illinois they had no trouble with insurance companies.

Dr. S. J. McNeill, Chicago, said one of the reasons for the introduction of the resolution was that in Chicago there were corporations who were employing doctors at the rate of \$150 or \$200 per month and having them take care of the injured. There are industrial physicians outside of the city who are paid the same miserable rate. He appreciated the fact that some physicians would not give competent services. It did not mean that the companies simply pay for services and have nothing to say regarding the treatment.

Dr. M. Adles, Duquoin, said he was instructed by the profession of Southern Illinois, should such a discussion come before the House of Dele-



gates, to favor it. The doctors employed by the corporations were the ones who got the cream; the general practitioners who grew up with a family got nothing.

Dr. VanDerslice said this was a problem that the medical profession had to handle some time. He did not believe it could be handled now. The viewpoint of men like Dr. Morton and others was good, because the medical profession knew these men were on the square, but there was the other side. It must be admitted that industrial surgery does much injustice to the general practitioner because of the jobbing out of work. He believed that the House of Delegates must face this resolution and that, as Dr. Morton said, that the doctors must get together. Some arrangement must be made whereby the House of Delegates shall go on record as in favor of this resolution or else it must be withdrawn. He was in favor of passing the resolution and making a compromise later. He believed the resolution should go to a committee to be worked out.

The motion to adopt this resolution was carried.

#### HOUSE OF DELEGATES, ILLINOIS STATE MEDICAL SOCIETY, 1922

##### CONDEMNING SHEPPARD-TOWNER ACT

WHEREAS, the Sheppard-Towner Law is a product of political expediency and is not in the interest of the public welfare, and

WHEREAS, the Sheppard-Towner Law is an imported socialistic scheme unsuited to our form of government, and

WHEREAS, the Sheppard-Towner Law is an unwarranted invasion by the Federal Government of the privileges, immunities, and duties of the several states, and

WHEREAS, the Sheppard-Towner Law unjustly and inequitably taxes the people of Illinois for the benefit of the people of other states for purposes which are lawful charges only upon the people of the said other states, and

WHEREAS, the Sheppard-Towner Law interferes with the sovereign right of the State of Illinois to regulate by its own laws, the practice of medicine within the state, and

WHEREAS, the Sheppard-Towner Law can not become operative in Illinois until the General Assembly shall pass enabling legislation, therefore be it

*Resolved*, that the Illinois State Medical Society disapprove the Sheppard-Towner Law as a type of vicious legislation which should be discouraged, and be is further

*Resolved*, that the Illinois State Medical Society urge upon the General Assembly that it pass no law which shall impose upon the citizens of this commonwealth

Federal bureaucratic interference with the sacred rights of the home.

CHAS. E. HUMISTON.

It was moved that the resolution be adopted. Seconded and carried.

WHEREAS, the present system of reporting births to the township clerks of each individual township is confusing and multiplies detail of work, and

WHEREAS, simplicity increases accuracy and efficiency in obtaining such reports, therefore be it

*Resolved* in this meeting of the House of Delegates of the Illinois State Medical Society, that this Society goes on record as supporting, and taking such steps as are necessary to influence legislation to a return to the former practice of sending all such birth reports direct to the County Clerk of each County.

J. A. GUSTAFSON,

Henry Co.

It was moved that the resolution be adopted. Seconded and carried.

Dr. J. W. VanDerslice said that the discussion of the morning showed very definitely that there was need of some "go between" between the medical profession and the Internal Revenue Department. He moved that the Committee on Public Policy should take over as a part of their definite work the dealings of the Internal Revenue Department in so far as the Harrison Anti-Narcotic Law is concerned. Motion seconded and carried.

Dr. Edward H. Ochsner moved that the Committee on Compulsory Health Insurance be discharged. Not seconded.

Dr. R. R. Ferguson moved that this Committee be continued and keep their eyes open. He further moved that the name be changed to the Committee on State Medicine. Seconded and carried.

President Humiston then introduced Dr. Charles E. Mongan, Somerville, Mass., who made a short address.

It was moved that the meeting adjourn. Motion seconded and carried.

#### DeKALB COUNTY

June 1, 1922, the De Kalb County Medical Society, thirty strong, met at a WELCOME sign at the Horatio N. Woodward Memorial Hospital at Sandwich. There was one hundred per cent attendance from four towns in the southern part of the county, viz., from Sandwich, Somonauk, Hinckley and Waterman. Kingston was the only town from the northern part of the county with one hundred per cent attendance, the other places averaging fifty per cent.

After being conducted through the hospital, we were taken to the Federate Church for the dinner

and meeting. At dinner our waitresses were nurses and the wives of the hospital directors.

Dr. Chas. L. Mix of Chicago gave us a splendid lecture on "Gastric and Duodenal Ulcers." Dr. John W. Ovitiz of Sycamore told us of the doings at the meeting of the Illinois State Medical Meeting. Dr. Geo. S. Culver of Sandwich gave us a history of the Horatio N. Woodward Memorial Hospital and its first year's work.

The secretary read replies from Representative John P. Devine and Candidate H. C. Allen, as to their position in regard to the new Medical Practice Act. Representative Devine's reply was very fair and courteous.

Moved and seconded that the secretary correspond with V. C. Michels of the Department of Education and Registration at Springfield to find out why unlicensed Chiropractors in De Kalb and Sycamore were allowed to continue to practice pending the taking of the examination to secure the proper license. Carried.

Meeting adjourned.

CLIFFORD E. SMITH, Secretary.

### GREENE COUNTY

The Greene County Medical Society met in regular session at Greenfield, on Friday, June 9, 1922, with President Dr. E. J. Peek in the chair. Dr. W. W. Billings of White Hall, was elected to membership.

The proposed Baby Conference to be held in connection with the Greene County Fair this year, in charge of the officials of the State, with the assistance and cooperation of the physicians of the Society was adopted, the announcement of the same to appear in the program and catalogue of the Fair Association.

The community nurse proposition was brought up and freely discussed, the consensus of opinion being that a graduate nurse, by careful reserved words and action, could be of great service to the community. She should know her duty to the doctor, she should not do promiscuous prescribing, and not show any preference or partiality.

A letter from Dr. Geo. T. Palmer, president Illinois Tuberculosis Association, was read with no action taken for the reason that a clinic held in the county a few years ago was not satisfactory.

As a member of a committee on medical legislative matters, Dr. Knox reported that he had interviewed and corresponded with the several candidates of our Senatorial district, received favorable reply from some; others did not answer. Few doctors give intelligent attention to the present medico-political situation; we should get busy. A medical practice act should be a law requiring all practitioners of human ills to qualify with the same educational requirements as of the legally qualified physician with the exception of materia-medica and therapeutics. The doctors should line up their members of the General Assembly on the Maternity Bill. New York and Massachusetts legislatures have

turned it down; Illinois should do the same. In the language of Congressman Volk of New York: "No necessity exists for this particular bill, aside from providing, as it does, for an army of paid professional social workers."

The dinner hour having arrived, adjournment was taken to the Greenfield Hotel, where an excellent lunch was provided by the courtesy of Doctors Bulger and Cravens, part of the menu being fried milk-fed chicken.

After dinner the meeting was again called to order at the city hall for the program: Dr. W. T. Knox read a valuable and interesting paper, a reprint by Dr. Edward H. Oschner of Chicago, on the "Future of Medicine as Applied to Ultra-Specialization." Dr. W. H. Garrison of White Hall read a well-prepared paper on "Rhachitis." Discussion followed on both papers.

Adjourned to meet at White Hall on the second Friday in September.

W. T. KNOX, Secretary.

### OGLE COUNTY

The Ogle County Medical Society met in regular session in the Court House, Oregon, May 3, 1922, with Dr. W. E. Kittler, president, in the chair. Roll call found ten members present and six visiting friends. Visitors from other societies were: Drs. D. Lichty and E. H. Weld of Rockford; F. M. Banker, Franklin Grove; T. F. Dornblaser, Amboy; Emil Windmuller, Woodstock, and Wright of De Kalb. Minutes of previous meeting were read by the secretary and approved.

Dr. Emil Windmuller, of Woodstock, read an excellent paper, subject: "Obstetrics: Our First Plan of Defense in Labor." The doctor's paper brought out an able discussion and many good points were observed. Dr. C. C. Karcher, Freeport, who was on the program, failed to be present.

Motion made by Dr. Beveridge: That the president of the Ogle County Medical Society appoint a committee of five consisting of the president and secretary and three other members including the president and secretary of the Lee County Medical Society, who will affiliate with the Ogle County Medical Society, that we hold a general summer picnic, including ten surrounding counties, at some designated place, at our next regular meeting to be held in July, 1922. Motion carried unanimously.

Motion made by Dr. H. H. Davis: That the Ogle County Medical Association appoint a committee of five to supervise the health activities of the county, such as tuberculosis clinics, crippled children clinics, etc., discussion to be the first act of business presented before reading of papers at next regular meeting. Motion carried. Several other subjects came up for discussion. Among them was the Shepard-Towner Bill, which received severe censure. A rising vote of thanks was given Dr. Windmuller for his well-applied paper. Adjourned to meet in regular session in July, 1922.

J. T. KRETSINGER, Secretary.

## Marriages

WILLIAM HENRY JAMIESON, Ottawa, Ill., to Miss Haylord M. Norrick of Indiana, May 17, in Ottawa.

HERBERT N. MCCOY to Mrs. Ethel M. Terry, both of Chicago, June 13.

VINCENT JOHN O'CONOR to Miss Katherine Carey, both of Chicago, June 1.

## Personals

Dr. Blanche A. Burgner was elected president of the Chicago Medical Women's Club, June 14.

Dr. Walter D. Stevenson, Quincy, has sailed for Europe, where he will take graduate courses in Vienna, Berlin and London.

Dr. Albert E. Brown resigned as county physician and superintendent of the Lake County General Hospital, Waukegan, June 30.

Harry V. Atkinson, B.S., University of Illinois Medical School, has been appointed associate professor of pharmacology at the University of Texas Department of Medicine, Galveston.

Dr. Walter W. Hamburger has resigned as assistant professor of medicine at Rush Medical College, and has accepted the position of associate professor of medicine at Northwestern University Medical School.

The following physicians have been appointed to the state board of medical examiners: Chairman, Dr. John R. Pennington, Chicago; Dr. Elbert L. Damron, Effingham; Dr. Henry P. Beirne, Quincy; Dr. Harry H. Hanly, Peoria, and Dr. Frank B. Earle, Wilmette.

Dr. Thomas Hall Shastid, of Superior, Wis., who practiced for a number of years at Marion, Illinois, received, at the recent Commencement of the University of Wisconsin, the honorary degree of Doctor of Science.

The honorary degree of Doctor of Science was conferred upon Dr. Chas. E. Humiston by Marietta College on June 14, 1922, in recognition of his "Distinguished service in the field of medicine."

Marietta College, at Marietta, Ohio, is the oldest college in the "Northwest Territory" and in honoring the retiring president of the Illinois Medical Society does itself honor. Likewise this signal honor must be gratifying to Dr. Humiston

as it comes from the old home town where his boyhood was spent.

Prof. Walter S. Haines was presented with a gold watch at the joint banquet of Rush and University of Chicago faculty and alumni and a fund was subscribed to endow a library in honor of his fiftieth anniversary as a teacher, June 14.

Dr. I. M. Miller of Kewanee is reported to have sold his practice to Dr. Paul R. Howard of Norfolk, Neb., with the intention of removing to Yakima, Wash.

Dr. A. Egdahl of Rockford is reported to have accepted appointment as director of public health of North Dakota and professor of preventive medicine at the University of North Dakota.

## News Notes

—A new \$125,000 hospital will be erected at Elmhurst.

—A new hospital will be erected at Lockport at a cost of \$175,000.

—The contract has been let for the \$35,000 addition to the Huber Memorial Hospital, Pana.

—The cornerstone of the new Rickly Memorial Hospital, Springfield, was laid June 27.

—At the recent annual meeting of the society, Dr. Walter B. Metcalf was elected president, Dr. Herman J. Achard, secretary-treasurer, and Dr. John Ritter trustee for three years.

—The secretary of the Kentucky State Board of Health states that, at a recent meeting of the board, it was voted to grant recognition to the Loyola University School of Medicine.

—The new World War veterans building at the Elgin State Hospital was dedicated May 28. The building was erected at a cost of approximately \$150,000 and will accommodate 250 patients.

—A campaign is being conducted to raise \$250,000, by the board of directors of the Lutheran Hospital, Moline. The sum of \$75,000 will be used for a 100 bed addition to the hospital at Moline, and the remainder will go to the Augustana Hospital, Chicago.

—At the annual convention of the Baltimore & Ohio Association of Railway Surgeons in Chicago recently, a campaign to educate railroad employees regarding the danger of contagious and social diseases was initiated.

—It is reported that the state has dropped the case against Dr. Robert X. McCracken, East St. Louis, ex-coroner of St. Clair County, who was

charged with the murder, on January 9, of Mrs. Clara Richwine and her father-in-law.

—A report from Dr. John M. Dodd, secretary of the Wisconsin State Board of Medical Examiners, states that recognition has been granted by the board to the Loyola University School of Medicine, Chicago, and that graduates of 1920 and succeeding years are eligible to take examinations held by that board.

—It is announced from St. Louis that the physicians of that city are considering the establishment of a permanent memorial to Dr. Heber Roberts, Belleville, who died May 1 from burns sustained during experiments with radioactive substances. Dr. Roberts began experimenting with the roentgen ray twenty years ago, and continued his researches, although the loss of four fingers, one by one, warned him of approaching death through his work.

—As a result of a rather sharp outbreak of typhoid fever, which was attributed to pollution in the public water supply, the city of Marshall has installed an emergency liquid chlorinator. At the same time, the state department of public health has stationed its mobile diagnostic laboratory at the scene, and has assigned a district health superintendent to assist the local authorities in carrying out a survey for the purpose of locating every possible source of typhoid fever. Typhoid fever has been epidemic in Marshall for years, and the present activities constitute a determined effort permanently to eradicate the disease there.

—The Chicago Community Trust contemplates a general survey of the urban institutional facilities for care of the sick and disabled. In a report of the first study, "Prenatal Care in Chicago," it is said that Chicago has twenty-eight prenatal stations, none of which are publicly conducted; all have been developed by various types of organizations. Not more than 10 per cent. of the women delivered each year in Chicago receive prenatal care by clinics or similar organizations. In 1920, in Chicago, midwives attended 15,816 births, private physicians attended 39,468, and twenty-nine births were unattended. In no case was it found that attending physicians of prenatal care clinics receive fees or a salary for that specific medical service.

—Those who registered at the Booth of the Spencer Lens Company, Buffalo, N. Y., manufacturers of microscopes, when they exhibited

their products at the Illinois State Medical Meeting in the Congress Hotel, will be interested to know that Dr. R. S. McCaughey, 820 Franklin St., Danville, Ill., was the holder of the lucky number. The editor acted as referee. The prize, which Dr. McCaughey was fortunate enough to win, was the new Spencer Electric Dark Field Illuminator. The lucky number was 86.

## Deaths

JOHN JAMES ANDREWS, Chicago; McGill University Faculty of Medicine, Montreal, 1903; L.R.C.P., L.R.C.S., Edinburgh, Scotland, L.F.P.S., Glasgow, Scotland, 1904; formerly clinical assistant surgeon and instructor of gynecology at Northwestern University Medical School, Chicago; at one time ship surgeon on boats plying between Montreal and Liverpool; served in the C. A. M. C., during the World War with the rank of captain; died, May 30, after a short illness, from streptococcemia, aged 42.

KATHERINE B. CLAPP, Chicago; Hahnemann Medical College and Hospital, Chicago, 1894; died, June 12, aged 71, from carcinoma.

THOMAS EDWARD COSTAIN, Chicago; Chicago Homeopathic Medical College, 1892; professor of surgery at Hahnemann Medical College and Hospital of Chicago; died, May 31, aged 61, from uemia.

GEORGE PATRICK GILL, Rockford, Ill.; Northwestern University Medical School, Chicago, 1906; member of the Illinois State Medical Society; served with the British R. A. M. C., during the World War; died, May 5, aged 39, from septicemia.

HENRY HORACE LATIMER, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1885; a Fellow A. M. A.; formerly professor of dermatology, Bennett Medical College, and on the staff of the Cook County Hospital; died, June 10, aged 68, from paralysis of the throat.

OLIVER P. NORRIS, Waltonville, Ill.; Cincinnati College of Medicine and Surgery, Cincinnati, 1871; president of the Waltonville State Bank; Civil War veteran; died, June 1, aged 78.

WILLIAM F. O'BRIEN, Fairland, Ill. (licensed, Illinois, 1881); died, May 13, aged 72, from senility.

EDWARD W. PAUL, Forest City, Ill.; Rush Medical College, Chicago, 1884; member of the Illinois State Medical Society; died, May 26, aged 66.

HEBER ROBERTS, Belleville, Ill.; Missouri Medical College, St. Louis, 1880; a Fellow A. M. A.; died, as the result of burns received in experiments with radioactive substances, May 1, aged 69.

R. B. SPIERS, Kirkland, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1878; died, May 12, aged 76.

WILLIAM GARLAND WHITE, Jonesboro, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1882; died, May 3, aged 68.



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## Original Articles

### TUMORS OF THE BREAST FROM THE STANDPOINT OF THE GENERAL PRACTITIONER AND THE GENERAL SURGEON.\*

ARTHUR DEAN BEVAN, M. D.  
CHICAGO.

*Mr. President and Members of the Tri-State Society:* It is my purpose this evening to discuss the subject of tumors of the breast as a practical, every day problem in clinical work, a problem which is quite as important, if not more important, to the general practitioner than it is to the general surgeon. I should like to do this in the simplest way and from the standpoint of my own personal experience with the subject. It will be necessary also in discussing tumors of the breast in this particular way to include also a discussion of the chronic inflammatory processes which simulate tumors and of the other conditions, either real or imaginary, which lead the patient and sometimes the medical man to come to the conclusion that a tumor exists, when, as a matter of fact, it does not exist. These later cases I shall discuss under the general title of "pseudo-tumors."

I want to say a word or two in regard to the history of this subject. In the days of Billroth and in the days of Gross a good deal of study and attention was given to this general subject and some definite conclusions arrived at, conclusions which we have been forced to alter by the knowledge which has been accumulated in the last thirty years. Billroth presents in his monographic article on this subject in the Billroth-Petha System of Surgery a very complete discussion of the subject up to the time that that article was written. Let me summarize some of the views which are presented. First, in regard

to the frequency of the various neoplasms found in the breast, Billroth's work seemed to show that carcinoma occurred in about 80 per cent. of the cases, benign tumors in about 10 per cent., and sarcoma in approximately 10 per cent. During Billroth's time there was a great deal more confusion in regard to the proper surgical procedure to adopt than there is today. It is quite clear that many of the supposed malignant tumors operated on at that time were not malignant but benign, and it is also quite clear that the operation done fell far short of being radical in the sense that we employ the term today. To be sure the breast was removed and very often the axillary glands, but the complete radical operation had not as yet been introduced. The percentage of recoveries in the cancer cases, because of the fact that many of these cases were operated upon late and the operation was not very radical, was small. On the other hand many benign cases were operated on with the diagnosis of malignancy.

Some surgeons of considerable experience at that time took the point of view that very few cases of cancer of the breast were permanently cured by radical operation. Since Billroth's time there have been these very considerable changes. In the first place, because probably of several factors, we are today seeing a much larger percentage of benign tumors of the breast than were seen by Billroth and his colleagues. In my own work benign tumors today form the majority, probably somewhere from 50 to 60 per cent. of the tumor cases that come to my service. In the second place, on account of the more general education of the public of the danger of cancer and of tumors of the breast generally, on the whole women are coming to us for operation much earlier than they did 30 years ago. In the next place, following the work of Heidenhain, Stiles, Halsted, Willy Meyer and others, we are doing a much more radical operation and one that carries with it much more safety to the pa-

\*Read before the Tri-State Medical Association at Milwaukee, Wis., Nov. 15, 1921

tient and as a result our percentage of cures has increased very considerably.

Treating this problem as I intend to do in the simplest and in a practical way, let us ask ourselves what shall we do with a woman who comes to us with a tumor of the breast. In the first place, we must ask the question, has she a tumor of the breast or not? That is by no means an idle question. I feel quite confident that I see at least fifty women a year who consult me for a supposed tumor of the breast where none exists, and these form a very interesting group of cases and one which must be studied very carefully by every honest, scientific surgeon.

These cases occur especially in two classes of women, the women who have been badly frightened by the occurrence of cancer in some member of their family or of some friend and who, because they have a twinge of pain in the breast, believe or at least are afraid that they themselves have a tumor and probably a cancer of the breast and come directly to a consulting surgeon for examination. The surgeon examines the case with great care and finds no neoplasm at all and most of these women are entirely and completely relieved by the assurance that they have no tumor and go on their way rejoicing.

The second group are cases which have been seen by some general practitioner who has listened to their story, then examined the breast and convinced himself, let us say perfectly honestly, that he could more or less vaguely outline a tumor in the breast in the position in which the woman complains that she has some pain or tenderness. These cases then come to the consulting surgeon of experience who examines them carefully and finds no tumor of any kind or anything that resembles a tumor, or he may find as not infrequently happens, that the woman has a lobulated breast in which the lobules of the breast are separated from each other pretty definitely by connective tissue septa so that one can pick up one of these lobules between the thumb and finger and without much stretch of the imagination imagine that we are palpating an encapsulated neoplasm.

I must add, too, a third group to these cases; that is a group in which a woman imagines that she has a tumor. She goes to the family physician and he imagines or believes that she has a tumor and she is then sent to a consulting sur-

geon, who should know better but either does not or is dishonest and is willing to operate on the case for the sake of a fee. It seems almost incredible that such a state of things could exist, but yet it is true beyond peradventure, because I have seen many cases which have been referred to consulting surgeons where the surgeons have recommended and urged immediate operation for



Fig. 1. Incision for carcinoma of breast so planned as to make the primary lesion the center of the block of tissue removed.

tumors of the breast where on examination on my service we found that none existed at all. I have seen that so frequently that without hesitation I make the statement that many breasts are operated on every year in this country where no tumor exists, some of these through mistake and others because the case furnishes an opportunity of making a fee, and one must remember also, a brilliant opportunity of making a permanent cure for cancer by amputation of the breast where, as a matter of fact, no cancer or even tumor of the breast has ever existed.

Now let us come to the next practical question, that is, the class of cases in which tumor undoubtedly does exist. A woman comes to your

service with a tumor of the breast. I want to say to begin with that tumors of the breast are definite, tangible things, like a bean or an olive or an English walnut or an egg or an apple. It is not necessary to strain one's imagination or eyesight at the end of the palpating finger to determine the presence of a neoplasm if one actually exists. In making the examination one can do very well by adopting two different methods, first, placing the flat of the hand on the breast and pressing the mammary gland with the flat of the hand toward the thorax and with gentle rotating movement see if a tumor can be palpated in this way. Usually it can be. Then in the next place, after determining the location of the tumor that particular segment of the breast is picked up between the thumb and finger and the tumor definitely located and outlined. After locating the presence of the tumor, the next step is to answer the question, is this tumor benign or malignant, or in the third place, instead of a tumor at all may it be a chronic inflammatory process. In other words, in determining the character of a swelling of the breast—and I am now excluding for the time being acute inflammatory processes such as acute abscesses—one must answer three questions: is it a benign tumor, is it a malignant tumor, or is it a chronic inflammatory process in the breast.

The differentiation between a benign and a malignant tumor depends very largely upon the fact as to whether the tumor is movable in the mammary gland tissue or whether it is frozen into the mammary gland tissue. Benign tumors are almost invariably movable in the mammary gland tissue. That does not mean that one can move the tumor on the chest wall, because that can be done in malignant tumors unless it is absolutely frozen to the thorax. A benign tumor should be movable in the sense that when you hold the mammary gland fixed with the thumb and finger a benign tumor can be moved in the mammary gland tissue itself. This is not true of a malignant tumor, nor is it true of chronic inflammatory processes in the breast. The simple evidence obtained as to whether a tumor is movable or frozen in overshadows in value all other evidence that can be obtained in mammary gland neoplasms. Of course, there are other simple practical points to consider—the presence of a tumor in both breasts in a young woman of 21

speaks with almost absolute certainty, because of the age and because both breasts are involved, against carcinoma and in favor of the neoplasms being benign. It goes without saying that in the breast as in carcinoma elsewhere these malignant neoplasms occur with much greater frequency during the cancerous years of the individual's life, from 40 to 60 years of age.

The usual classical descriptions given in our text-books of a malignant tumor in the breast are for the most part of little value in making an early diagnosis. Pain, the marked retraction of the nipple, the marked fixation of the tumor to the skin, the fixation of the tumor to the underlying muscles of the chest wall, the presence of lymphatic nodes in the axilla, and the evidence of carcinomatous cachexia, most of these pieces of evidence are of little or no interest to the clinical surgeon who is anxious to operate on a patient at a time when there is a good prospect of permanent cure. They are of rather more interest to the pathologist. There is one piece of evidence, however, that occurs fairly early and in comparatively small malignant tumors which should be emphasized and is of real practical value, that is, the dimpling of the skin over the malignant neoplasm, and one must, of course, not disregard, even in early cases, this same condition which produces a retraction of the nipple.

A malignant tumor of the breast where there is a good prospect of a permanent cure by operation is the tumor that is seen so early that few, if any, of the evidences of the old classical picture are present and when, in fact, the diagnosis rests alone upon the discovery of a neoplasm that is frozen in the mammary gland; without any other pieces of evidence this alone furnishes the evidence upon which the operator acts, and this malignant tumor of the breast must be also, if we are to class it as a favorable case, one in which the cancer is limited to the primary focus and in which there is not as yet any palpable involvement of the nearest lymphatic node—the nodes found in the axilla.

Now before we discuss the question of the proper surgical handling of these cases and the prognosis, let us take up the subject of benign tumors of the breast. In order to reduce this subject to the simplest possible terms, instead of making any elaborate classification of these various benign tumors, let me say that in a practical

way we may group these benign tumors all under the title of adenoma; this includes fibro-adenomas, simple cysts and the tumor which may be possibly best described as cystic disease of the breast, which has been so well described by Schimmelbusch that it has been frequently referred to as Schimmelbusch's tumor of the breast, a condition which is thought by some authors to be a cystic disease due to chronic mastitis, but which Schimmelbusch believes, however, to be neoplastic. I quite agree with that theory that this cystic disease of the breast is neoplastic and not inflammatory. There are, to be sure, a great variety of benign tumors which may occasionally occur, such as lipoma, angioma, enchondroma, etc., but almost all of the benign tumors of the breast that we meet with in our clinical work can be referred to one of three groups, either fibro-adenoma, simple cyst of the breast or multiple cysts occurring as they do in Schimmelbusch's disease. Fibro-adenoma might again be subdivided into a number of varieties, such as intracanalicular fibromas, intracanalicular adenopapilloma, etc., but I think for practical clinical purposes this is unnecessary. These fibro-adenomas are encapsulated and very distinctly movable in the breast tissue when one fixes the mammary gland firmly against the chest wall. They vary in size, they very frequently involve both breasts, and they very frequently begin in early womanhood, in the twenties. Simple cysts are also although not encapsulated, freely movable in the mammary gland tissue because they are not frozen in as a malignant neoplasm and are not surrounded by inflammatory tissue as in chronic inflammatory processes. A cyst can be also movable and involve both breasts and may occur comparatively early in life. Where there is a single large cyst careful dissection not infrequently discloses the fact that there may be small cysts in close contact with the large cyst. As an example, one will not infrequently remove a cyst the size of the yolk of an egg and in close contact with it there may be two or three or a half dozen small cysts no larger than grains of sago, but for all practical purposes the cyst is a single cyst.

The Schimmelbusch tumor is a disease of early womanhood. It may involve both breasts and it may be limited to a small area of the mammary gland or it may develop gradually and involve most of the mammary gland tissue. As you all

know, in cross section the disease is made up of multiple cysts varying in size from grains of sago to cysts the size of a bean or even a small cherry, forming a picture in pathologic anatomy somewhat like cystic disease of the kidney one sees in congenital cystic kidney. In this neoplasm there is frequently no definite capsule. On the other hand, one of these tumors the size of an egg is usually fairly freely movable in the

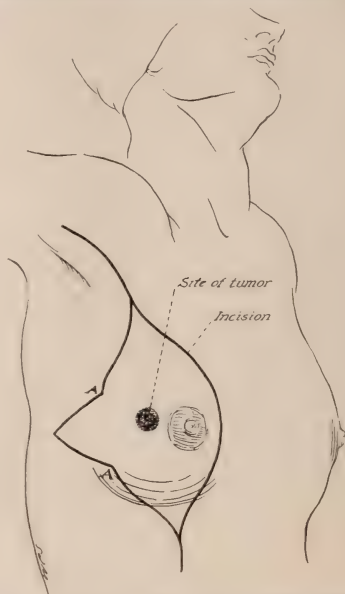


Fig. 2. Carcinoma at the periphery of the mammary gland. Incision planned to make primary lesion the center of the block of tissue removed.

mammary gland tissue because again it is not frozen into the mammary gland tissue by extensions of the process, such as occur in carcinoma or by inflammatory processes, such as occurs in chronic inflammatory lesions of the breast.

I want to say a word in regard to sarcoma of the breast. Sarcoma of the breast is certainly a rare lesion and I have seen comparatively few cases: Of course, in looking over widely the literature one may find a considerable number of sarcomas of the breast, cases representing all varieties of sarcoma, but in my own clinical work I doubt very much whether sarcoma has occurred in more than 2 or 3 per cent of our cases. In



the early development of sarcoma of the breast it gives us a somewhat confusing picture, midway between a benign and malignant neoplasm, in the sense that some of these sarcomas have a distinct capsule and are freely movable in the mammary gland tissue, but as they grow larger and the process involves the tissue outside of the capsule we have the same frozen-in characteristics that we find in carcinoma.

Let us now consider for a moment the chronic inflammatory processes that may stimulate tumor, because, as I said in the beginning of this discussion, it becomes necessary to make a differential diagnosis in our ordinary clinical work between these chronic inflammatory processes and neoplasms. The chronic inflammatory processes which I have met with have been three in number; tuberculosis, syphilis (gumma), and actinomycosis. We can dismiss actinomycosis with a few words as the lesion is comparatively rare and is one that is not very often apt to be confused with a neoplasm, though this is possible at times. Actinomycosis of the breast is, of course, secondary to lung and pleura actinomycotic processes extending through the lung and pleura to the mammary gland, producing hard swellings with not infrequently fistulous tracts. The swelling is quite characteristic. This wood-like induration one finds in almost all actinomycotic processes. It is associated, as I have said, very frequently with fistulous tracts and, of course, examination of the pus and granulation tissue scraped out with the curet will usually disclose the rods of the actinomycetes or complete characteristic colonies.

Syphilis of the mammary gland is by no means uncommon and one should be on his guard against the possibility of this stimulating malignant disease. I have several times seen syphilis of the breast operated upon with a diagnosis of cancer and have seen one breast sacrificed for gumma with a diagnosis of cancer and then after the same process developed in the other breast, by more careful examination the correct diagnosis determined and the process cured by proper anti-specific treatment.

Tuberculosis of the breast may, of course, simulate malignant disease or benign neoplasm. The diagnosis, however, on gross section with direct inspection of the pathologic process is not very difficult, and inasmuch as these cases of tubercu-

losis seldom if ever give anything like the typical picture of carcinoma, but present characteristics placing them in the list of cases demanding visual inspection of the pathologic process before a radical operation is made, the correct diagnosis and correct surgical therapy present in correct practice no insurmountable difficulties.

As these patients with swellings in the breasts come to us I believe one could say that in more than 90 per cent of the cases we can make an accurate clinical diagnosis from examination of the swelling and determine in this large percentage of cases, more than 90 per cent, whether we have to deal with a malignant growth, a benign growth or a chronic inflammatory process. In this 90 per cent of the cases I feel that the clinical diagnosis is so definite that we can proceed with our operative interference without direct inspection of the neoplastic tissue and in the cases in which we believe we have a definite carcinoma to deal with, proceed at once to radical operation; in the cases in which we believe we have a benign neoplasm to deal with, proceed to a local removal of the neoplasm first, by making an incision in the fold under the breast, turning the breast upside down, removing the neoplasm, obliterating the dead space in the mammary gland at the site from which the neoplasm has been removed, dropping the mammary gland back into position and closing the external wound. This course is much to be preferred, because the scar will not be visible, to an incision directly over the neoplasm which will leave a more or less disfiguring scar. Of course, when we handle a benign neoplasm in this way it gives us a definite opportunity of examining it grossly and determining the pathology in cross section.

This leaves a group of about 10 per cent of cases in which we begin our operative procedure with a feeling that we do not know whether the tumor is benign or malignant and that we must first determine this fact before we decide what procedure, radical or local, should be adopted in the particular case. Now how are we to determine in this doubtful group of cases whether a neoplasm is benign or malignant. In answer to that I will say that almost invariably by exposing the tumor and by direct section of the tumor and making the diagnosis from the gross naked eye pathology. To the surgeon who is trained in gross pathology nothing is more satis-

factory and nothing is more definite in the vast majority of these cases than a diagnosis from the gross pathology on cross section. Nineteen times out of twenty or more the section of a carcinoma is so definite that a trained surgeon has no question as to the condition which he has to deal with when he has cut through the tissue with his knife and exposed it for inspection. The same is true of benign tumors. This inspection of the gross pathology is a much more certain way of making a diagnosis in these doubtful tumors than a rapidly made frozen section. I have applied this method in my cases for a long time. I am very glad to find that Bloodgood in a recent article on breast tumors in Binney's Surgery presents quite clearly the same conclusions that the gross pathology can be relied upon much more safely than a rapidly made frozen section.

This leaves a very, very small percentage of tumor cases in which the diagnosis, after inspection of the gross section, is not absolute or in which one may be mistaken in his diagnosis. I doubt very much if this group would furnish more than one per cent of all tumor cases and these are the cases in which a very careful examination of the specimen after its removal and a very careful study of serial sections are necessary to make a definite diagnosis, and inasmuch as this is always made, or should be always made, in these tumor cases, it leaves the situation in regard to this small percentage of very doubtful cases in this way—that the surgeon makes a diagnosis of a benign tumor or a doubtful tumor, removes simply the tumor and then submits it to a very extended and careful study with serial sections. That is complete within two or three days and on the basis of that careful study if it proves to be malignant, radical operation is then at once made.

In connection with this particular group of cases I want to say that I have no sympathy at all with the proposition that was preached a few years ago, that removal of the tumor from the breast for microscopic examination was bad surgery. If a tumor of the breast is removed and very carefully examined and we devote two or three days to this examination and study, I can not see that any possible harm is done to the patient if at the end of the third or fourth day a radical operation is made. Cancer cells do not hop around like the Irishman's flea. They extend

from the primary focus along the lymphatics by a slow process of growth just as a pumpkin vine grows along the ground and not by a kind of a growth that would develop in the two or three days during which the specimen is being examined.

Now so much for the practical differential diagnosis between these three groups of cases, the malignant tumor, benign tumor and chronic in-

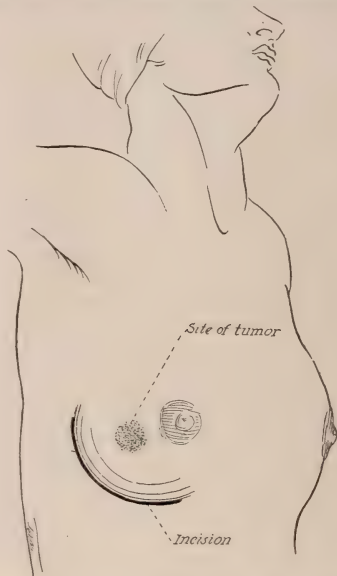


Fig. 3. Incision for removal of benign tumor.

flammatory process. Not what are we to do with the woman who comes to us with these swellings of the breast? I would answer without hesitation, we are to determine absolutely by some certain means of diagnosis the condition that is present. It is not fair to allow a case to go away without that advice. Even though a tumor looks benign we should know that definitely and that usually means in the presence of a single tumor the removal of the tumor for gross and microscopic examination. There are certain conditions in which a benign tumor might be left without any operative interference. Let me cite a few of these. A girl of 20 comes to you with two tumors in one breast and one in the other. They

are perfectly movable and they are the size of cherries. They are with almost absolute certainty benign neoplasms, either cysts or fibroadenomas. They are so small they are not disfiguring. Tumors of that kind can be safely left with the diagnosis that they are benign, but if they increase in size they should be removed.

Now in connection with these benign tumors I want to say a word in regard to the prospect of these benign tumors becoming malignant. I want to tell the story from my own clinical experience. Out of three or four hundred or more benign tumors that we have removed and have been able to follow in longer or shorter periods, I have never been able in but one instance, and that occurred here in Milwaukee, to follow out a case where we had diagnosed the tumor as benign and where later the patient came back with a malignant tumor, and from the theory of probabilities, inasmuch as 10 per cent of women of cancer age died of cancer, it would be not at all surprising if quite a number of women who had benign tumors of the breast removed later developed carcinoma of the breast. Certainly there would be nothing unusual in one carcinoma of the breast in two or three hundred women who had benign tumors removed from the breast. I cite this because I am impressed with the fact that there is little or no reason for us to believe that benign tumors of the breast remain benign for years and then become malignant. I feel that that is not true. We must, of course, recognize the fact that any neoplasm may change from a benign condition into a malignant one, but I believe it is a very, very unusual thing and that it seldom happens and that there is little more danger of a benign tumor of the breast becoming malignant than there is of any other portion of that same breast becoming the site of a carcinoma. The confusing pictures which are so often cited of a tumor that looks benign and later becomes malignant are to my mind usually cases of tumors which have been malignant from the start, that is, slowly growing malignant tumors. I feel, therefore, we are not warranted in telling a woman that she should have a tumor of the breast removed for fear it might become malignant, because I do not feel that that is true.

The real problem, of course, of breast tumors is that of cancer of the breast. Let us analyze

this problem and ask ourselves what are the real facts in regard to the prospects of cure in cancer of the breast. Cancer, of course, is beyond question originally a local disease and if we can make a radical operation of the breast when the carcinoma is the size of a bean or the size of a cherry, and the process is absolutely limited to the breast tissue and has not as yet invaded the draining lymphatics, there can be no doubt that the prospects of a permanent cure are excellent. There can be no doubt, for instance, that much more than 50 per cent of the cases of carcinoma of the breast that are operated upon early before the axillary glands are involved are permanently cured by radical operation. Unfortunately, however, as the cases come to us the prognosis is not nearly as good. I should say that out of 1,000 cases of cancer of the breast that come to well trained, competent surgeons, probably 25 or 30 percent of them are permanently cured by operation. The moral, of course, is that we should continue the propaganda, which we have already begun, through the profession, through the medical societies and through the special organizations, such as the Society for the Control of Cancer, to educate the public and the profession in the importance of having breast tumors inspected and properly handled very early.

The best surgical technique for the radical operation of the breast has become pretty well standardized, that is, the necessity of removing the mammary gland and overlying skin widely and underlying pectoralis major muscle and cleaning out the axillary fat and lymphatics. The dissection should be so planned that the block of tissue removed has at its center approximately the center of the primary focus; in other words, the dissection should be so planned that the periphery should be as nearly as possible equidistant from the primary focus all around. My own experience has taught me that whenever the lymphatic glands in the axilla are grossly involved there is a poor prospect of permanent cure. I want to tell you why this is so. I want to sketch to you rapidly the lymphatic drainage of the breast. The lymphatics of the breast drain into the axillary glands and into the lymphatic glands in the anterior mediastinum along the internal mammary artery, into the posterior lymphatic

glands in the posterior mediastinum along the intercostal arteries, into the lymphatic glands above the clavicle and also in a limited way into the lymphatics around the round ligament of the liver and the umbilicus. Although the large lymphatics of the axillary space can be easily palpated and are probably also the first involved and are involved to the greatest extent, at the same time it is true that the lymphatics in the anterior mediastinum are involved almost as early. Involvement of the posterior mediastinal lymphatics follows shortly and then, of course, the lymphatics above the clavicle and the lymphatics about the umbilicus. We cannot remove the lymphatics in the mediastinal spaces and inasmuch as when the lymphatics in the axillary space are definitely and grossly involved, we as a rule at the same time have an involvement of the mediastinal glands, we have to deal in this group of cases with conditions which prevent permanent cure.

Little need be said in regard to the technique as far as anesthesia is concerned. Drop ether anesthesia is beyond question the anesthesia of choice. Amputation of the breast could be done with gas and oxygen, but unless there is some special indication, not nearly as safely as with drop ether. There is little or no reason for ever employing local anesthesia in extensive dissections and amputation of the breast. The operation, of course, can be done under local, but it seems to be that it is stretching a good thing to the breaking point to adopt local anesthesia in radical breast work.

There is, of course, little or no mortality from the operation itself. The prognosis varies as far as the permanent cure is concerned from 50, 60, 70 per cent in the very early cases in which the lesion is limited to the breast and there is no axillary involvement, to a vanishing percentage of recoveries in the cases in which the operation discloses a very widespread lymphatic involvement extending above the clavicle. As a whole, if we are quite truthful and include all of our cases, I think somewhere from 25 to 30 per cent of permanent cures in cases actually operated upon are the results that are being obtained.

Can these results be benefited and improved by the x-ray? I think they can. Should radium

be employed? I think not. I think the x-ray is of very much more value in the after-treatment of breast amputations for carcinoma than radium. I feel personally very strongly that it should be employed in every case, that it should be employed by an expert, that it should be employed thoroughly but short of any prospect of burning the patient. The logic is irrefutable. Time and again I have seen gross recurrent carcinomatous lesions, the size of a bean or the size of a cherry, disappear under x-ray treatment. It seems perfectly clear to me that if these gross, visible, tangible lesions can be made to disappear under the x-ray that the microscopic group of cells from which they sprang could be very much easier destroyed if the x-ray is used immediately after radical operation. This I think should be advised in every case. There comes a time, of course, in hopeless cases where the x-ray evidently is of no value, where it holds out no prospect of benefit and where some other agent than the x-ray, such as morphin, had better be used for the purpose of making the patient as comfortable physically and mentally as possible without adding any possible injury from x-ray management.

In brief and in a simple way this seems to me to be the story of tumors of the breast as far as it can be told from the knowledge we possess today. These cases furnish us a real problem and a large problem and an every day, practical problem that must be met by the general practitioner and by the general surgeon and it can be met in the right way only if as a profession we educate the public and we help to educate ourselves and our colleagues so that there will be a widespread knowledge among the laity of the importance of tumors of the breast and the general knowledge that a small beginning carcinoma of the breast can be cured by proper surgical operation, that neglect of these cases means almost certain death, and it can be met properly only if the profession give to these patients the benefit of early diagnosis and early and proper surgical treatment. And may I emphasize the importance of not only giving patients with cancer of the breast the benefit of proper radical operative treatment, but of also treating those patients with benign tumors not by radical but by conservative methods.



## WHY IS A DOCTOR?

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My old professor of surgery was fond of defining a 'Definition' as "building a verbal fence around a fact, that isolates it from every other fact." A New York senator did just exactly that when he said to me, about us:

"Doctor, you doctors are the dearest people on earth and we love every hair of your head, as *individuals*, but, as a *class*, you are a pitiable bunch! You spend your time, money and energy organizing and maintaining medical societies for the advancement of science and the betterment of your fellow-man, and you don't know the first thing about the laws of self-preservation. The enemies of decent Medicine, in this country, are *organized* and you are *not*; you are not even well-informed."

That was perfectly true in 1919 when we sought by dignified resolutions, adopted by medical societies and presented by distinguished doctors, to defeat Compulsory Health Insurance and found we were a negligible quantity and the 'locus minoris resistentiae' of the body-politic. That bill did not pass; not because we had any influence with legislators but because far-seeing business men recognized its economic waste.

Now, however, the spirit of American Medical citizenship is abroad in the land and Doctors are beginning to realize that, by reason of their training and education they are the best qualified teachers of society and by reason of the intimacy and sanctity of their relations with their patients they are the most forceful teachers of society, and by virtue of their devotion and self-sacrifice they are the best beloved elements in society and when the doctor talks Public Health Legislation his beloved *people* listen; when the *people* talk they use the language of *votes* and the legislators, their leaders and advisors, take heed and make public health legislation their concern and meretricious measures designed to paternalize and pauperize the *people* and politicalize and panelize their agencies of healing are sent to the scrap heap where they belong.

The power of organized medical citizenship is tremendous but it cannot function without knowledge of the plans of the enemies of decent

medicine. We dare not plead ignorance because it is our duty to learn and know; we dare not plead impotence because there is no class of men and women whose influence among the people is so direct and personal and there is no profession, no, not even the ministry, more deservedly revered by those who do not hesitate to entrust their very lives and honor to the devotion and sympathy of the doctor, who is their one dependable friend from the cradle to the grave.

Communism, through its arch-priests, Lenine and Trotzky, began with a department of public health and welfare and a printing press for making "rubles." The apostleship of disorder in this country of ours is apparently less radical, but undoubtedly more astute; they know, none better, that Barnum was right—"The American public likes to be humbugged." They chant a hymn of "welfare" and wear the cloak of "brotherhood of man" and speak tearfully of the poor, dear babies of America and the statistical mother, who is sacrificed (in six figures) because we have no Sheppard-Towner maternity bill, and they demonstrate that they have about as much interest in the *birth* of American babies and the care of American mothers as a fish has in a bathing suit. Why? ask you. Because that very Sheppard-Towner bill which is now the law does not provide one moment of doctor or nurse, one drop of medicine, one ounce of food for an expectant mother, one stitch of clothing for an expected child; nor can a sovereign state, which is foolish enough to go 50-50 with the Federal government, through an enabling act, provide any such care unless such a "rule and regulation" receives the approval of *one woman*, an affiliate of the Jane Addams Hull House of Chicago, in her capacity of chief of the children's bureau of the Department of *Labor*, (labor, mind you) whose chief is a political appointee of a partisan president!

Bear in mind please, that the propagandists of that bill took as the text of their arguments, the writings of one Mme. Kollontai, a Russian traitress, whose moral code reaches its ultimate in the abolition of marriage and the indulgence of sex-impulse with *birth control* as the substitute for sex-control and, despite the more words of compromise inserted to meet the criticism of 'snooping,' a social service sob-sister, statisti-

cian, field worker or other protege or graduate of the Foundations' Schools of Sociology, Philanthropy and Psychology may invade any American home over the protest of the owner thereof or one standing *in loco parentis* unless the *American Citizen* resorts to physical assault or a writ of injunction, either of which is an expensive luxury when it comes to a retainer for legal protection. Just read that bill. To be sure these people have no 'right' to do these things, but that is equally true of a burglar or a yegg man and the bill leaves it up to the citizen to employ counsel to protect him.

State medicine is chameleonic in character; it appears today as a pay-clinic with an imposing array of names of medical big-guns, not one of whom can (or does) give more than that name to the clinic, not one of whom can afford, in justice to himself and his pay-patients, to give more than that name which serves the purpose of deceiving the people into the belief that they are getting "the best in the house" only to find that the distinguished leaders of medicine are unseeable and unconsultable.

Then state medicine flowers out as a "Maternity Center" or a "Community Center," or a "Health Center," or a "Syphilis and Gonorrhea Center" (really the most profitable of all as a feeder to the commercialist in medicine), but these are simply facets of the real scheme of state medicine which was crystallized, in New York state, as the Sage-Machold State Medicine Bill, which provided a huge political organization, beginning with a politically appointed state superintendent of health and running out through boards of selectmen, boards of supervisors, common councils and boards of estimate and appointment (in the large cities where the "velvet" is) and passing on down through the institutional and individual agencies of healing to the horse which draws the ambulance *all* panelized, all impersonalized, all politicalized, with the *people* at once the victim and the paymaster.

You must understand that every blessed (?) one of these schemes, Compulsory Health Insurance, Compensation Laws, "Centers," Clinics—call them what you will—require at some point a *panelized* group of doctors, dentists and druggists and nurses and hospitals and sanitariums or

other agency of healing. That, from a dollar-economic standpoint—a *panel* is essential and the element of free choice of a personal agency of healing becomes non-essential, in fact, actually embarrassing and intolerable and the personal equation that makes the relation of doctor and patient the most intimate bond in society, outside of kith and kin, must be swallowed up in the transition of a *citizen* from a *person* to a card-indexed unit. Sounds extravagant? Just stop to consider those erstwhile heroes upon whom the hand of tuberculous disease was laid and who had dear ones whose visits to the hospital on Staten Island helped brighten their lives; some one in Washington played checkers one day and shifted these poor fellows who had given their all for us; some went west and some went south. To H—l with human sympathy and the personal equation! "Humaneity," Mr. Gallagher? . . . "No, efficiency, Mr. Shean."

What is this *panelization*? Simply this: Doctor, your license to practice medicine is a *privilege*, not a *right*; it is subject to the police power of the state, but as the laws now stand, a doctor who plays the game on the "square" is reasonably assured of the continuance of that *privilege*, and the courts can and will protect him *but*, some way must be found by these "wreckers from without" to *compel* the practitioner to help make operative these mis-called "welfare" measures, if passed, and they prepare a "medical practice (re-registration) act" and they propagandize it as a means of "elevating the standard of medicine by securing a new census and locating and eliminating the illegal and unlawful practitioners." Understand, it is a bunch of lay "uplifters" who are going to do this for us (and to us). Go a little further:

These "wreckers from without" realize that the medical babes-in-the-wood in county, state and national medical societies are hero-worshippers and elect to leadership men whose past performances in the field of scientific medicine have been meritorious, just as the Twelve elected Judas Iscariot treasurer because of his meritorious past performances in the field of finance. The high priests of Herod's day bought a "borer from within" for thirty pieces of silver; the high priests of the congregations of worshippers at the

shrine of something else than Americanism, in *our day*, buy "borers from within" the profession of medicine with a fulsome flattery, or a contribution from a foundation to some institution with which the "borer" is connected, thereby increasing his prestige. One of these propagandizes, even within his own profession, "*an inquisitorial body*" while the "wreckers from without" get ready a medical practice (re-registration) act. When a wide-awake American citizen recognizes the meretricious character of such a bill, and exposes it and exposes its propagandists, the "borers from within" draw round themselves the sacred circle of distinguished leadership and hurl anathema upon the daring one, warning him that "he will be crucified" which is a crude substitute for the oldtime "request to quaff the hemlock cup."

What is the end of all this? A Department of Public Health and Welfare to which a partisan president has been led to commit himself and for which a perfectly harmless family doctor has been brigadiered and uniformed and set to work as a Surveyor Extraordinary and Propagandist Plenipotentiary; a President of the A. M. A. (Work), has subverted the function of his high office to urge that measure, taking as his text the Brigadier-General propagandist's "little Blue Book" and appointing on a special committee to consider and report thereon, that very same Brigadier-General-Doctor and, of course that committee comes through with an endorsement of the "high purpose" of the people who are back of the Department of Public Health and Welfare. They were there for that very purpose and this "double-crossing" is one of the many evils the doctors of his country must solve.

You are responsible for the endorsement of a Sheppard-Towner Maternity (Birth Control) Bill, because your leaders through a Reference Committee on Legislation and Public Relations, deliberately double-crossed you and scrapped a New York State Medical Society, Anti-State Medicine Resolution, which was endorsed by Illinois, Michigan, Massachusetts and New Hampshire, representing more than one-fifth of the population of the nation! That Committee submitted a substitute for all resolutions and the Chairman of your Judicial Council of the A. M. A., amended even that! The end result was quoted by a member of the House of Representatives' Committee on Interstate and Foreign Com-

merce, as evidence that the A. M. A. was in favor of legislation of the Sheppard-Towner Maternity Bill type. This type of double-crossing is part of the house-cleaning you must do before the "wreckers from without" can be properly handled by the Medical Salient of the American Line of Defense against Communism.

By indiscretion in choice of leaders; by concentration upon the scientific function of the county medical society and permitting the business session to be relegated to the tail-end of the evening and determined by a little handful of members; by indifference to the plans of the wreckers of society and contenting yourself with that "it-can't-be-done—it-would-be-unconstitutional" supineness which enabled the organized micro-minority to put over prohibition while the unorganized majority was sleeping on its rights; by disregarding the maxim of equity, "He who will not when he may, may not when he will;" by these *laches*, we have permitted a Greifenstein to grow up in the body politic. How are we to overcome it? By answering our own question—*Why is a Doctor?*

Why is a doctor? Because society needs protection from physical disease and death,—but society also needs protection from social disease and degeneration and political disease and waste of the money and man-power of the state. When these evils threaten society by way of the public health and personal well-being of the people; by limitation upon the economic independence, domestic privacy, self-reliance and self-respect of the people and their agencies of healing, it becomes the solemn public duty of the American Medical Citizen to go to the people with the facts, in their homes and on the street, in the forum and in the public press, so that they may speak their minds and their legislators and leaders may understand and defeat the purposes of the "Wreckers from without," or be themselves defeated by the power of the people's votes. Then it becomes our solemn professional duty to expose and eliminate the "Borers from within" our County, State and National Medical Societies.

Some task, say you? Of course, it is; so was the American Revolution. Remember, however, the parable of the strands and the cable, that strength lies in the blending of the elements.

However well-informed, however sincerely indignant and well-meaning I may be in my desire to beat the "Wreckers from without" and



rebuke and reform (or eliminate) the "Borer from within" I am utterly powerless alone.

In every County Medical Society in every state in the nation, there is surely one man capable of being a "Paul Revere" and enjoying the confidence of ten men who will support and counsel him and invoke the support of ten men each. These 110 men can conscientiously and consistently dedicate themselves to the support of the leadership of the *one* just so far and just so long as he plans and works for the "square deal" for his profession and the people it serves, with the clear understanding that they will crush him as they would a grub worm, if he attempts to abuse the power which their influence gives him.

Let this group of men develop the Power of Organized Medical Citizenship within the County Society; let them see to it that the business session is not relegated to the heel of the evening to be determined by the little handful of men who remain; let them either submit a plan for confining the scientific session on alternate meetings to 15 minutes or arrange that alternate meetings shall be strictly medical, or strictly civic; let them study the problems of Compulsory Health Insurance, State Medicine, Health Centers, Community Centers, Sheppard-Towner Maternity Bills, Sterling-Towner Educational Bill, Public Health and Welfare (Federal) Department Bills, the Harrison Narcotic Law, and State Acts relating thereto, the Birth Control Measures and the Medical Practice Re-registration Acts and the host of other silly measures, like the bill introduced in the New York State, by a Mr. Male, that "every doctor should have a nurse or female attendant in the room, when making examinations upon women!"

Let this group of 'Minute Men', find out who is behind that kind of legislation—the American Association for Labor Legislation? The Women's Trade Union League? The Rand School? The Jane Addams Hull House? The League for Women Voters? The Women's Christian Association (in New York)? The Birth Control Leagues? The Voluntary Parenthood Leagues? and let them apply to any such measure the *Napoleonic Code*: "*GUILTY*, until proved innocent," and in 99 cases out of 100 they will find a trick that means the prostitution of the Profession of Medicine. Let me illustrate. The New York State Medical Society and many of its leaders whose sincerity and decency cannot be

questioned, endorsed a Medical Practice Re-registration Act, which would provide for an annual Reregistration of doctors. The propaganda was that it would insure a correct medical census and eliminate the illegal and unlawful practitioners, by transferring the prosecution of such cases from the district attorneys of the counties to the attorney general of the state." Sounds plausible, does it not? You cannot blame those dear, clear-souled Doctors who are jealous of the quality of *service* of their *order* to humanity, for "falling for" this propaganda? Of course not. But New York State and (yours) is spending a barrel of money for the secretary of state, the State Health Department, the board of regents, the State and county and city health departments, the attorney general and the district attorneys, and the county clerks, and if that army cannot maintain a correct medical census, we had better abandon our form of government. Then, the District attorneys of the counties are really part of the jurisdiction of the attorney-general of the State, and, *for cause*, an attorney-general may designate a *special deputy attorney-general* to assist or *supersede* any district attorney who dares prove false to his oath of office by ignoring illegal and unlawful practice of medicine within his county. So much for the ostensible reason for defeating that Re-registration Bill. Here is the *real reason*. The welfare of the Professional Philanthropist and the Political Patronage demands that the *minimum* of cost be expended for medical service and supplies and that the *maximum* quantity of service be rendered, which requires that there shall be available for this service, every practitioner and every specialist, in either a dominant or servient capacity, depending of *course*, upon the individual practitioner's political affiliation, and upon his channels of influence within his own party, because, after everything is said and done the legislators are not enacting this legislation for their health.

For example: You and I may not be able to rake off \$72,000 for 18 months' work of supervision under a blanket contract for compensation work in a group of surgical emporiums; neither are we capable of doing a herniotomy at 11 A. M. and sending the patient home on the hoof, at 1 p. m! But we might have sufficient "pull" to get an inspectorship of a district or some officership in the "Statesmanlike Organiza-



tion of the Medical Forces of the Nation with a General Staff," which the editor of the *Century Magazine* recommended. But, whatever our position in the scale, we must be prepared to find that the natural laws are as immutable today, as they were when the waves failed to recede at King Canute's imperial order; therefore, the Penalization of Panelization is the substitution of quantity medicine for quality medicine; the impersonalization of the doctor and the cattleization of the patient; the prostitution of Medicine as a Healing Art to the expediency and compromise of a political science.

"Those things cannot be done in this country," you say. "The people would not stand for it." Well, we said that about prohibition, you will remember, and only recently your Congress has let you in for \$1,288,000 (Federal) and \$10,000 (State) Taxes *per year* for the "teaching" of the Hygiene of Pregnancy, and the Hygiene of Infancy and for "other purposes," not the least of which will be the teaching of your wives and daughters "How to be childless, though married," the economic waste of which is the shrinkage of the middle class of society and its loss of the balance of power with the resulting domination of the proletariat—the end objective of the *Third Internationale!*

Please remember, doctor, that your own American Medical Association was quoted by a Congressional Committee as "Endorsing and approving" that type of legislation and your leaders were not present to deny it or refute it, and did not even take the trouble to file with that Committee an editorial in the *Journal* of the A. M. A. adversely criticizing that Bill, weak as that editorial was, when compared with the treacherous Resolution adopted at Boston, 1921.

Well, what are you going to do about it? Roll over and go to sleep, muttering that the country is going to the Bolshevik Dogs?, or are you going to do "your bit" to make this country the better for the alertness and activity of your American Medical citizenship?

Are you going to "Coise them false leaders that are betraying us and the people we love and soive," as they say in the "mellerdrammer," or, are you going to be a *leader*, yourself, and put your County Medical Society on the map?

Buck up, doctor. "A chain is as strong as its weakest link." Don't be the *missing link!*

405 Union St.

## THE FLIES ON THE CHARIOT WHEEL.

### APROPOS OF WHO'S WHO IN SEX-GLAND IMPLANTATION.

G. FRANK LYDSTON, M. D.  
CHICAGO.

There has been considerable discussion of late as to priority in gland transplantation work; notably by quacks and by certain newspaper medical publicity artists—the pivotal point of whose ideas of scientific research is reporting their cases and commercially exploiting their patients in the daily press.

Patience has ceased to be a virtue with me, hence I am going to do a bit of plain speaking, briefly stating my claims.

1. In January, 1914, I was the first to successfully transplant a testicle from one human being to another. (The case was reported at that time in the Bulletin of the Chicago Medical Society—in the proceedings of the meeting at which I made my report of the case.)

2. At the above time I was the first to successfully transplant a testicle from the human dead to the human living body. The recipient of the gland was myself, hence I was the first subject upon whom a successful implantation was done.

3. As a corollary I was the first, and thus far the only surgeon to implant a gland of any kind from either the dead or the living, for experimental or any other purpose, upon his own body.

4. I was the first to make comprehensive observations upon the physiologic results of the sex hormone based on testicle implantation.

5. To the best of my knowledge I was the first to experiment with implantation of the human testicle or human ovary in cases of insanity, and to report the experimentations.

6. I was the first to successfully transplant an ovary from the dead to the living human female. As to whether this was the first ovarian hetero-transplantation from human to the human I am not certain. Tuffier did numerous ovarian auto-implants.

7. I was the first to demonstrate by published photographs and stereopticon slides in public lectures a testicle which had been successfully implanted and later removed (four months and nine days after implantation) for macroscopic and

microscopic study and photographic presentation to the profession.

8. In this foregoing experiment the testicle was implanted on the body of a woman, hence here is another "first."

9. I was the first to demonstrate the interstitial cells of Leydig in a gland which had been implanted and later removed.

10. I was, I believe, the first to show the cells of Leydig by micro-photographs and the stereopticon before a medical body (in America at least). In passing I will state that none of the workers in three of our largest Chicago Laboratories ever had seen the cell of Leydig until they saw my sections.

11. I was the first to demonstrate that these cells proliferate and multiply and endure for a long period in implanted glands—carrying on meanwhile their functions of hormone production.

12. I was the first to demonstrate by sections and micro-photographs the formation of new blood vessels and the presence of normal blood corpuscles in the tissues of implanted glands—the crucial test of successful im plantation.

13. I was the first to exhibit, either in private or at a medical society, patients with still demonstrable implanted testicles, or glands of any kind. (Two before the Chicago Urological Society, and one before the Chicago Medical Society. So far as I am aware, there has been but one other case exhibited, and in this case I was given credit for the discovery and the technique.)

These implanted glands had been in situ for from one to six years respectively. The results, which were eminently satisfactory, had persisted. Incidentally, several years after I exhibited the cases the satisfactory results still continue.

14. I was the first to study the effects of testicle implantation upon nutrition, and incidentally, upon the skin, vascular system, and blood, stating my belief that the method was likely to prove valuable in the treatment of arterio-sclerosis and various diseases of a chronic character. (I reported a severe long standing case of psoriasis in a patient who was dying from various chronic alcoholic conditions, in whom there was a marvelous change in blood conditions, with complete disappearance of the eruption within two weeks.)

15. I was the first to prove that cases of imperfect sex development (congenital) with inverted secondary physical sex characteristics are potentially curable, and that patients who have been castrated can be restored, for a considerable time at least. (In one case, castrated six years previously, complete restoration—mental, physical and sexual—has persisted for nearly three years.) These cases hitherto were hopeless, as every surgeon knows.

Had I accomplished nothing else, I should be content to allow this feature of my work to stand as the sole and conclusive evidence of its value.

16. I was the first to formulate and publish a systematic technique for testicle and ovarian im plantation, publishing complete histories of the cases and photographs of numerous implanted male glands in situ.

17. I was the first to experiment hypodermically with emulsions (or "suspensions") of various human gland tissues—notably the pancreas, spleen, liver and kidney.

18. I also was the first to experiment with emulsions or "suspensions" of human cerebrum, cerebellum, and medulla given hypodermically. (These emulsions were all made from tissues taken from the dead human body.) I injected fully 200 doses of 1 c. c. upon myself, before submitting a single other subject to the injections.

In 1914 my work was presented to the Chicago Medical Society, to the North Side Branch of the Society, The Chicago Women's Medical Society, and the Milwaukee Medical Society. Later, (1915, I believe) to the Lake County Society, the Tri-State Medical Society, the Chicago Academy of Medicine, and the Chicago Academy of Surgery. Up to date I have privately exhibited cases to fully 100 physicians. In November, 1920, I lectured upon the subject before the Los Angeles and San Francisco County Societies, illustrating the lectures with the stereopticon.

My early work was published in the *New York Medical Journal*, May to November, 1914, and later in book form—"Impotency, Sterility, and Sex Gland Implantations," 1917, and some of it still later in the *Journal A. M. A.*

To briefly sum up my work on testicle im plantation—I was the first to "deliver the

goods." Further, I believe that up to date I have done more implantation work than has been performed by all other operators combined.

I make the foregoing claims advisedly. For my papers of 1914 I ransacked the literature—and employed others to do so—and presented something like fifty or sixty references in my bibliography, comprising everything that I could find bearing on the work. I even incorporated the work of a certain other claimant to "priority," upon whom—he being a pachyderm—the implied justice and lesson in courtesy were entirely lost. After my work had appeared—he scarcely could have overlooked it—he published a Kindergarten paper with an "additional case" etc., so closely identical to his first case as to be suspicious. Be it remarked that neither case was one of implantation or transplantation of "a testicle," and the Lord only knows what happened to the transplanted tissue. As for his alleged "cures," the less said about a "cure" in single cases of impotency the better.

Fifteen references were appended in one of the before mentioned papers. (My name did not appear.) Seven of these references were to authors or to stuff that apparently "never were on land or sea."

When, in looking into the matter, I asked the assistance of Mr. Bay of the Crerar Library, he Crerar Library, he said: "Surely, Dr. Lydston, said: "Surely, Dr. Lydston, you must be mistaken."

"All right," I replied; "Let's check up."

And we did. Let anyone interested ask Mr. Bay what he said when he recovered from the shock.

To the little flies on the chariot wheels of scientific progress who are so concerned with the lay publicity incident to alleged priority I would say this in regard to sex gland implantation:

Berthold of Göttingen made the first testicle transplant in 1849. This was an auto-transplant to the body of the same fowl. It never was anything but a physiologic curiosity and led to nothing practical. As to the hormone stuff; if anybody deserves the credit for priority it is poor old Brown-Sequard—who never heard of a hormone—and whom the professional "damp-phools" laughed out of court. Carrel did a lot of gland work—with no organo-therapeutic idea in mind—which led nowhere, at least he publicly

confessed failure, even subsequent to my work.

Leo Loeb some years ago, demonstrated that tissue cells removed from the body survived and multiplied both in vivo and in vitro. Experimental work with malignant tumor grafts long ago confirmed this.

In a Philadelphia hospital in 1911 or '12 (I have not the reference at hand), a testicle was taken from a body just dead and implanted—for cosmetic purposes and the psychic effect—in the scrotum of a patient from whom a sarcomatous testis had just been removed. The operation was reported as a failure and no scientific observations were made. I published this case in my bibliography.

Speaking of "lower animal to human" transplants, Robt. T. Morris transplanted rabbits' ovaries to the human female many years ago—this was in the prehormone days and led nowhere.

The priority claims of a certain distinguished gentleman from Paris, he asserts, were made by newspaper men to whom he never granted interviews. This makes me smile, as I know the facts. But, as he finally wrote me and acknowledged that he never had had any experience with the human gland, and performed his single monkey gland operation three years after my work appeared, and wasn't a surgeon anyway, I would consider him disposed of, had he not recently again broken into newspaper print about the possibilities of transplantation of other glands and organs. As all of this stuff appeared in my papers of 1914 and in my book of 1917, and the gentleman deliberately stole the rest of his stuff from my work, I infer that he still is faithfully reading my brochures. This lay-publicity artist certainly is "a hog for punishment."

In re. the Chicago gentleman who has been exploiting the Frenchman's dead dog and monkey work, perhaps the less said the better. Inasmuch, however, as he butts into the picture every time the newspapers discuss the gland stuff, I will recall to the members of the Chicago Medical Society a certain occasion when this party was spouting at one of our meetings about his friend from Paris. I asked him if he himself ever had done an implantation of a human gland upon a human being. He replied that he had. "How many," I asked. "Two," he replied.

"From the audible "snicker" that rippled

around the room, I judged that comment was unnecessary, hence I made none. Possibly none really is necessary here, but I have no hesitancy in stating that, at the time mentioned, the aforesaid member of the Ananias Club never had performed a single case of human testicle gland implantation. Neither he nor his friend from Paris ever had seen one up to that time. Finally, I'd be willing to wager that, up to, we will say June 1, 1922, neither of them ever had performed one.

I have tried to be good-natured throughout the various discussions and thefts of my work, and have been, I think, rather patient with certain persons, but if some of the "flies on the wheel" are not more circumspect, I certainly shall take my "swatter" in hand.

Apropos of priority: If the work I presented to the various medical societies in 1914 was not new, it is strange that nobody in my various audiences reminded me of the fact. Surely there should have been someone present who was in touch with the subject.

Dr. Wm. T. Belfield saw my first case, with the gland in situ, several weeks after the implantation, and saw several other cases at varying times after the implantations. It is strange he did not inform me that I was threshing over old straw. What Belfield overlooks rarely is worth mentioning—and he certainly is nothing if not outspoken.

After examining my first case Belfield remarked: "If you make good in this work, Lydston, you ought to have the Nobel Prize."

The only important work in gland implantation following my technique has been done by Stanley, of San Quentin—a courteous, conscientious gentleman, who apparently took pleasure in giving me credit for his inspiration and technique—and by my partner, Dr. M. J. Latimer of Chicago, who has done more of the work than any single operator, myself excepted. Townsend of New York, who has been doing some work at Sing Sing, probably will cheerfully follow Stanley's example, giving due credit to me. Be it remarked, apropos of Townsend's recent experiment upon a case of epilepsy, that this disease was among those suggested by me in my first paper, as a promising field for sex gland experimentation.

The then editor of the *New York Medical Journal* in 1914, in acknowledging the receipt

of my Mss., said: "Your epoch-making paper will be published beginning—" He surely must have been in touch with the literature. Furthermore, some of his many readers must have been.

In 1919, I think it was, Captain Jules Voncken, editor of the *Ann. Med. de Belgique* (Liege) investigated the gland implantation subject, and in his journal gave me due credit for priority, placing our Parisian laboratory man and a certain Viennese physiologist in their proper relative positions.

If my work was not new, it is strange that some kind friend among the large number of surgeons to whom I exhibited my cases did not know it and remind me of it. There invariably is somebody who is thus tenderly considerate.

Among the first to see my work was the late J. B. Murphy. He seemed to think the work was new—and mighty little ever got past Murphy.

Incidentally, I went over the field pretty thoroughly in preparing my bibliography, and found no evidence that I was not on new ground. As is my wont, I gave credit wherever credit was due.

Some months since, the *Journal A. M. A.* published an editorial condemning gland implantation in toto. The chief objection urged, was that sacrifice of the patient's own glands was necessary in order that implantation of new ones might be made. No American name was mentioned, and nothing was said about priority. One may imagine whose name would have been mentioned, and what would have been said about him, had the facts justified adverse criticism of priority claims. As it was, the writer of the editorial contented himself with attacking the operation and making an absolutely false and ridiculous statement in re. its technique. This despite the fact that several of my articles on the subject had appeared in the columns of the same journal.

Incidentally, my book had been advertised in the *Journal A. M. A.* for several years.

In passing, I would call attention to two erroneous newspaper statements by my friend, Dr. Wm. A. Evans. He said that I had abandoned the use of the entire gland and was using "slices." This is not true. He also said Stanley of San Quentin, Calif., had the largest experience with glands from electrocuted criminals. Stanley



never has had a single case. Hanging only, is practiced at San Quentin. I used glands from subjects killed by the live wire in 1914, and reported them (N. Y. Med. Jour.) May to Nov., 1914.

Every scientific discovery suffers at the hands of quacks, ignorant or commercial camp-followers and alleged research workers whose scientific work bears the same relation to true scientific work as the late Buffalo Bill's histrionic efforts bore to the drama. Gland implantation is no exception to the rule. But, I think it is here to stay, and is destined to be the foundation of a rational and comprehensive gland therapy which will be of incalculable value.

The adverse criticisms of the gland work by certain persons would be amusing if they were not a reflection upon the intelligence of the profession at large. These parties condemn the intra-tissue administration of glands as worthless, and then blithely prescribe dessicated gland preparations—which often are ridiculous—internally, or give various drugs hypodermically, in the belief that they are more efficacious when given that way. Consistency, thou art indeed a jewel.

I wonder if these persons ever studied woorari, or snake venom.

In conclusion, I will state that the sooner certain persons exhibit less avidity for lay publicity based on alleged priority, and settle down to hard, thorough, scientific work, the better for their reputations and for scientific progress.

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## A SYSTEM OF APPLYING LOCAL ANESTHESIA\*

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While one might profitably spend the time allotted in a discussion of the advantages of local anesthesia, I shall refer to this phase of the subject but briefly and consider more at length the application of local anesthesia to major surgery. It is admitted I believe that local anesthesia is safer than any other form of anesthesia. Even in the hands of the untrained it offers advantages from the standpoint of safety that

general anesthesia in the hands of experts can not provide. In the hands of experts local anesthesia is exceedingly safe.

The most important difference of opinion in relation to the use of local anesthesia hinges upon the efficiency with which it may be used and the efficiency with which complicated operations may be performed under its influence. It is to this phase of the subject that I wish especially to refer.

Incidentally the by-product of local anesthesia, comfort, while of minor importance is worthy of consideration, other factors being equal.

My thesis is that by the use of a proper system a large percentage of patients demanding major surgery may be offered the safety of local anesthesia, and in addition that under this form of anesthesia operations may be performed with efficiency and with less discomfort in many cases than that offered by any form of inhalation anesthesia.

The percentage of operations which a surgeon may find himself prepared to perform under local anesthesia will depend largely upon his training and equipment, and possibly somewhat upon his temperament. The latter will, however, as a rule, undergo rather rapid metamorphosis as his skill increases.

His success will depend largely upon three factors: first, the technic of the application of local anesthesia; second, upon the application of a surgical technic compatible with the use of local anesthesia; and third, upon his willingness to give heed to the special attention which is every patient's due in looking after the minor details which govern the comfort of the patient during his sojourn in the hospital.

## THE TECHNIC OF THE APPLICATION OF LOCAL ANESTHESIA

It is an established fact I think that novocain in weak solution may be used in sufficient quantity to thoroughly interrupt the nerve supply to any operative field with comparative safety to the patient. The establishment of anesthesia then depends upon one's ability to reach the nerve supply of the parts. In the case of the cerebrospinal nervous system the nerve supply may be reached by a direct infiltration or by conduction anesthesia. The sympathetic system, situated as it is, is somewhat more difficult to reach. The ideal method of interrupting the

\*Read by invitation before the Chicago Medical Society, April 26, 1922.

cerebrospinal nerves is, of course, at or near their origin, and had not this method certain disadvantages it would be the method of choice. However, intraspinal anesthesia, paravertebral anesthesia, and other forms of nerve block requiring much skill and experience will long remain in the hands of the experts. Practical local anesthesia on the other hand, as exemplified by infiltration and infiltration block, lends itself quite readily to the use of the surgeon with but a moderate amount of training in the art of local anesthesia and this form of anesthesia is perhaps destined to become the most widely accepted.

The various methods of inducing local anesthesia have reached a comparatively high plane of perfection. The development of a surgical technic which is compatible with the use of local anesthesia has made slower progress, and its use will in the future depend much more upon the development of such a technic than upon the improvement in local anesthesia methods. A surgical strategy must be developed which will enable one to perform surgical operations with efficiency under the local anesthesia methods which are available today. The greatest problem relates to intraperitoneal surgery and in no field is the dictum laid down above more true than when working within the abdominal cavity.

*Splanchnic Anesthesia.* While the development of splanchnic anesthesia by the posterior route may be said to give excellent intraperitoneal anesthesia, its establishment has certain disadvantages which will keep it out of the hands of the general surgeon for a long period. Likewise the anterior splanchnic anesthesia of Wendling will be slow of acceptance. The anesthesia of Braun who introduces a hand through the abdominal incision and palpates the bodies of the vertebrae before applying the splanchnic method is of a more practical nature, but it is by no means a simple procedure. For these reasons we have attempted to develop a form of strategy to meet the demands of abdominal surgery under local anesthesia and to simplify the anterior splanchnic technic of Braun.

The development of this strategy is predicated upon the hypothesis that the splanchnic nerve supply may be interrupted wherever it can be exposed. A successful system therefore in carrying out surgical procedures within the abdomen or in establishing anesthesia in this region de-

mands an adequate exposure. This we obtain by first establishing a perfect anesthesia of the abdominal wall, which abolishes the reflexes and presents relaxed abdominal parietes. In direct relation to this there is a demand for the absence of expulsive effort on the part of the patient—a condition which we have chosen to call negative intra-abdominal pressure—making visual rather than digital abdominal exploration possible.

An exposure is obtained by a rigid compliance with the above mentioned demands and is further facilitated by the use of elastic lateral and vertical retraction of the abdominal walls, tilting of the patient's body in order to obtain advantage of the force of gravity, perfect illumination of all intraperitoneal pockets and an appropriate surgical technic which permits one to deal with the offending organs in their normal habitat, rather than to dislocate them and bring them out upon the abdominal wall before dividing their peritoneal attachments.

Complicated intraperitoneal work also demands the establishment of splanchnic anesthesia, and by means of the foregoing strategy we have been able to establish anterior splanchnic anesthesia in a vast majority of cases. Its establishment depends entirely upon exposure and is facilitated by proper equipment. In the upper abdomen the splanchnic area is reached in the region between the liver and the duodenum, and by making use of the co-operation of the patient one may readily inspect this area in most cases. In the pelvis the splanchnic nerves may be interrupted at the pelvic brim or in the broad and round ligaments. It is entirely a matter of exposure.

While it is undoubtedly true that in a certain percentage of cases preliminary sacral, parasacral, trans-sacral or posterior splanchnic anesthesia will be a great aid in the carrying out of an abdominal operation and in certain instances at least one of these methods will be found essential to success, it is also true that their establishment adds greatly to the irksomeness of inducing anesthesia and that a large percentage of surgeons elect to use mixed anesthesia in operations that are begun under local anesthesia rather than to routinely adopt any one of these methods as a preliminary.

In order to bring the greatest amount of good to the greatest number it is desirable to simplify

as far as possible the use of local anesthesia. Complicated methods should give way to simpler ones in all cases in which simple methods will meet the demands. I wish to briefly describe some of the adjuncts which have made it possible for me to perform ninety per cent of the major surgery that has presented itself in my clinic under the exclusive use of local anesthesia. The field is so broad that I shall confine my remarks especially to surgery of the abdominal cavity.

One of the greatest difficulties with which one meets relates to the making of the abdominal exploration. One may be embarrassed when using local anesthesia should extensive abdominal exploration be demanded. However, this handicap may be greatly reduced by the establishment of a good preoperative diagnosis and the proper selection of an incision both with regard to its direction and length. I would also like to call attention to the fact that the blind abdominal exploration has not been an unalloyed blessing in its final analysis as it has been applied during recent years, during which it has too often been used as a substitute for incomplete preoperative diagnosis. It is a grave question whether its use has resulted in sufficient benefit to the patient to offset the results of its abuse.

Assuming then that a fairly definite preoperative diagnosis has been made, the strategic points which we have found of most service in dealing with intraperitoneal lesions are as follows:

1. A position upon the table which allows the patient the maximum of physical comfort.

2. Restraint of the patient without constriction.

3. The induction of local anesthesia without the production of pain.

4. The making of a properly planned incision without the excitation of a combative action on the part of the abdominal muscles. This demands perfect anesthesia, elevation of the abdominal wall while incising, elastic retraction of the wound and feather-edge dissection.

5. Tilting of the table so that the force of gravity may be employed in exposing the intraperitoneal field of operation.

6. The establishment of an anterior splanchnic anesthesia.

7. The carrying out of the operation within the peritoneal cavity without the dislocation of the abdominal tissues by which method traction may be avoided.

8. Visual rather than digital exploration obtained by proper retraction and illumination.

The adjuncts in equipment and technic which aid in meeting this ideal are:

1. A table upon which provision is made for universal tilting.

2. The use of elastic retraction which is offered by the use of the wire spring retractor.

3. The use of long, delicate instruments, bacteriologic technic and the forceps tie.

4. The presence of a psycho-anesthetist at the patient's head through whom co-operation on the part of the patient is obtained.

Briefly, by the use of proper equipment and an appropriate surgical technic one may carry out a large percentage of abdominal operations with a fair measure of success.

I wish to present some special devices which we have found serviceable in carrying us over rough roads while attempting this work.

Chief among these is the Pneumatic Injector, which furnishes one with a constant supply of solution under a definite, fixed pressure, making it possible to induce anesthesia in a minimum time with a minimum of exertion and with but slight possibility of missing any portion of the field which is to be infiltrated. For intraperitoneal work this instrument allows one to reach with the needle point any desired locality without the hand obstructing the line of vision, an exceedingly important point when one is attempting to anesthetize sensitive areas in deep cavities.

Another device which is almost absolutely essential to success in this work is the automatic wire spring retractor. The use of rigid, fixed retraction is incompatible with this surgery, and in this day hand retraction should of course not be employed.

The next essential is perfect illumination of the field of operation which is a prime essential if one expects to do deep intraperitoneal surgery under local anesthesia. There is no method of illumination with which I am familiar by which the deeper pockets in the peritoneal cavity can



be visualized without the production of shadows and heat. On this account the universal self cooling lamp was devised.

The forceps tie of Grant, the use of long, delicate instruments, the avoidance of traction and the use of gravity rather than gauze pads for carrying the movable viscera out of the field are of decided advantage.

The performance of an operation under local anesthesia may be said to correspond in some respects to taking an automobile trip under certain conditions. One may find clear sailing for hours upon the highway when suddenly one comes upon a bad stretch of road where the greatest care and strategy is required in order to pass and should the driver lack sufficient skill and equipment it may become necessary to send to a nearby farmhouse and place one self at the mercy of the man who owns the horses. It is somewhat the same in performing an operation under local anesthesia, and it is at the point where the road is bad that one requires every artifice in order to travel on his own power. Skid chains which as a rule are unnecessary may save one a trip to the farmer's house and incidentally prevent some depletion of one's exchequer. In the same manner the use of the Pneumatic Injector may save one the necessity of calling upon the general anesthetist who is all right in an emergency but whom we like to avoid calling if possible. Experience and preparation for emergencies will in a surprising degree bring one unaided over the rough places.

It is the writer's belief that one may by following the simple rules laid down meet most of the demands of intraperitoneal surgery by the use of local anesthesia alone.

In conclusion may I suggest that the surgery of the future will demand an improvement over that of the past which is almost in exact correspondence with that which is demanded and allowed by the use of local anesthesia and that the best interests of the patient will also correspond with these demands. Furthermore, that the more extended use of local anesthesia will be largely dependent upon a simplification of the methods of its induction and the development of a surgical technic which will meet the demands of the local anesthesia system.

## A COMBINED INTRA AND EXTRA-NASAL OPERATION FOR THE CURE OF DACRYOCYSTITIS\*

J. SHELDON CLARK, M.D.

FREEPORT, ILL.

Much has been said and written regarding the advantages as well as the disadvantages of the intra-nasal operation for the relief of dacryocystitis. Like all other radical departures from accepted lines of treatment, this procedure has met with various degrees of acceptance. That the operation is not indicated in all cases of disease of the tear sac and that one should here use surgical judgement as to what and what not to do in a given case, goes without saying.

It was my privilege to present a paper before this Section at the 1914 meeting of the Illinois State Medical Society, in which I gave my preliminary experience with the intra-nasal operation. Having had the good fortune to be with Dr. West in Berlin in 1913 I became acquainted with his work. I believe the principles of the operation as devised by West were sound and so I have continued along this line ever since; and with occasional suggestions as to betterment in technique which have been made from time to time.

Papers were read before the American Academy of Ophthalmology and Oto-Laryngology at both the 1914 and 1915 meetings. Special instruments which I devised were also presented before the A. M. A. at its 1914 meeting. Papers were given before the Chicago Ophthalmological Society, the Milwaukee Ophthalmological Society and the Minnesota Academy of Ophthalmology during 1915. In this work I attempted to present the intra-nasal operation with a great deal of emphasis placed upon adherence to what would ordinarily be thought but petty details. I did this for the reason that I felt that without strict attention to the technique, failure would often result.

Since the early work of West many operators have come forward with various slight modifications, most of them with the idea of making the operation more easy to perform. I have been interested in this feature of the work from the start.

In this connection, in 1915, at the Chicago

\*Read at the 72d Annual Meeting of the Illinois State Medical Society, Eye, Ear, Nose and Throat Section, at Chicago, May 17, 1922.



meeting of the American Academy of Ophthalmology and Oto-Laryngology, I read a paper giving an account of my work and cited a few changes in technique which I had found useful. At that time I had ceased the use of the probe in the canaliculus; neither did I slit the punctum. This change in technique was brought about through the experience gained in a case where it was impossible to pass a probe through the inferior canaliculus, on account of false passages having been made in this structure by reason of previous faulty probings. In this case an opening was made directly into the sac by an incision 3 mm. in length. This gave me ready access to the



Fig. 1. Making the 3 mm. stab incision directly into sac with a cataract knife.

sac and with the probe I was enabled to explore the cavity of the sac. By this examination one could very well determine whether one had a condition amenable to treatment by this method or whether or not it would be better to treat the sac in some other way, such as its total removal; and for which there is nothing better than the Meller operation, so well described by him in his book upon Ophthalmic Surgery. A slight change in technique wherein the initial incision is made directly down upon the outer edge of the lachrymal fossa, thus exposing the sac and avoiding the intricate dissection as detailed by Meller and which leads to occasional embarrassment by reason of entrance being made into the orbital fat. I first saw this done while assisting the late Dr. Charles H. Beard in 1906. This has again

been brought out by Dr. Allen Greenwood in more recent years (1920).

Operations which have as their aim an attack upon the duct from below were long ago advised. The first to have that honor was Caldwell, who proposed it in 1903. Later Killian proposed the same thing. They all have in mind more or less sacrifice of the lower turbinal. This is especially true of the Yankauer procedure.

What we wish to gain by our combined operation is to cause a short-circuiting of the nasolachrymal duct. That one should pay no attention to the duct is very well shown in the vagaries of anatomical structure which this duct assumes, and which has been so very well shown by Schaeffer, Von der Hoeve and others. The immediate success of the Meller operation wherein little attention is paid to the duct, is another bit of evidence favoring the main idea of this operation. When one has established this short-circuit drainage then one is surprised how readily conditions of dacryocystitis which have existed for years, clear up as though by magic. Best of all, there is a functioning tear apparatus left and this is particularly gratifying to the patient. I will grant that extirpations of the sac are distinctly of benefit in that they cure the condition but there is lack of function and this is of great moment to the patient, whether or no the surgeon has any regard for this. Surgery is more and more demanding continued function or restored function as the end result in the part operated upon before the attendant can be classed as ideal.

I am therefore presenting to you a combined intra and extra-nasal operation for the relief of epiphora, chronic dacryocystitis, fistula and in cases of phlegmon. A brief description of the various steps of the operation I believe to be of sufficient merit to warrant my giving them to this Section.

The patient is, in general, prepared for this as for any intra-nasal operation. A hypodermic of morphin and atropine is desirable from one-half to one hour before operation. Anesthesia of the field of operation is obtained with the application of adrenalin-cocaine mud thoroughly massaged into the mucous membrane of the nasal chambers, paying particular attention to the outer aspect, the region to be operated upon. Several injections of 1 per cent. novocain are made directly into the skin overlying the sac, also the imme-

diate neighborhood, as one does for the Meller operation, carrying the needle down to the periosteum at several points. A wait of ten minutes to assure deep anesthesia is desirable and



Fig. 2. Shows the Bowman probe having punctured the paper plate at its junction with the maxillary bone.

during this time occasional massage is made to the skin overlying the sac and thereabouts. A few drops of 2 per cent solution of butyn are instilled into the conjunctival sac and will aid in the general comfort of the patient.

Having made the stab incision into the sac, one enters with a Bowman probe (No. 3 size) and one can very nicely outline the confines of the sac. It is very easy now to push the probe through the paper plate of the fossa upon which lies the sac. This can be exactly done if one commences with his soundings anteriorly over the nasal process of the superior maxillary bone, which structure makes up a part, greater or less, of the bed for the sac. I make a rather gliding pressure with the probe and it is very easy to tell when one reaches the thin bone, whereupon the probe readily pushes through into the nose. This little procedure was first suggested by me in 1915 and is the main element in a paper presented before the Ophthalmological Section of the A. M. A. in 1920 by Drs. Wiener and Sauer, and called by them "A New Operation for the Cure of Dacryocystitis." The use of the punch forceps is also presented by these gentlemen as a new procedure and this also was given by me in 1914 and 1915 before the A. M. A. and the American Academy of Ophthalmology and Oto-Laryngology.

I believe that one should avoid all unneces-

sary mutilation of the tissues if we are to do the best for our patients. Therefore an external incision, such as Toti makes, with the idea of getting at the bony floor from without is, to my mind, unnecessary. Likewise anything which interferes with the punctum of the canaliculus is likewise damaging important structures and is to be studiously avoided. I do not in the main favor the burr for the reason also that the burr cannot always be depended upon to stay where it is placed, in order to use the burr a much longer incision is needed, and there is a likelihood of doing damage to the sac walls as well as intranasal structures, with consequent adhesions. These adhesions will later on be of great embarrassment and are likely to defeat the purpose of the operation.

Incisions with special beak and right-angled knives are made so as to inclose a square and which marks the location of the floor of the lachrymal fossa and its corresponding bulging within the nose, which is known as the *torus lachrymalis*. These incisions extend beyond the angles so as to allow of an easy elevation of the

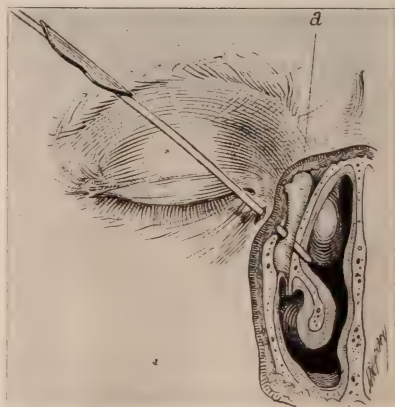


Fig. 3. Probe entering nasal cavity orientates one as to the location for the intra-nasal work as described.

muco-periosteum. If necessary, the uppermost incision may be carried forward where it joins a vertical incision at about the region of the pyriform process, and the flap thus formed is turned down like the leaf in a book. This gives

a better view of the field, but I find it is not necessary in many of the cases.

A chisel curved on the flat is then taken and placed against the bone that is to be removed. This one is able to determine very rapidly by the position of the probe already spoken of, and which has been left in place. The operator

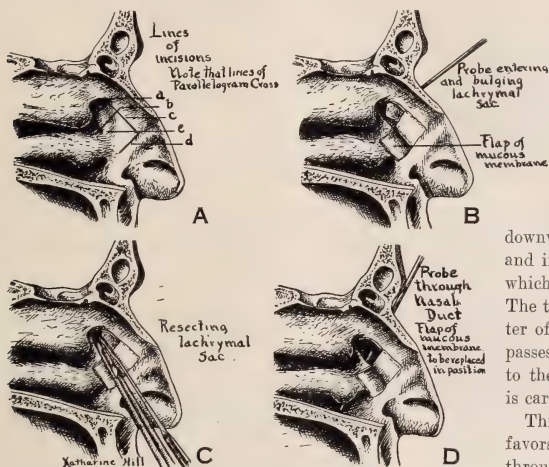


Fig. 4. Various steps in the intra-nasal work. Fig. C: Knife and tenaculum being used. Punch forceps also used here.

should have control both of the chisel and the mallet so as to have that delicate sense of touch which is so desirable in all intra-nasal work. The chisel is pointed or directed toward the equator of the eye on the side operated on. I find that it is advantageous to make nicks in the bone above and below so as to better limit the bone that is to be removed. One knows of a certainty that he is getting the bone off at the right point for the reason that the probe is there to guide him, and, furthermore, when the bone does come away one finds the characteristic surface on the bone which goes to make up the lachrymal fossa.

I am convinced that much of the success of this operation depends upon getting a well-defined opening without needless traumatism to surrounding structures. Having secured this opening, the sac is now pushed through the window made and its inner, or nasal, wall resected. This can be done either with a knife and the spe-

cial grasping forceps (right and left), or the punch forceps which I have devised for this operation. One now syringes through the skin incision, using a boric acid solution. This syringing is repeated at this time until the solution comes away clear and the clots of blood are washed away. This is an important part of the technique and should always be done.

I now come to a special bit of technique which I believe has helped me greatly in several of my cases and which I have not heretofore mentioned in my reports and that is the use of a small rubber drainage tube, which I carry from above downward, through the stab incision and into the nose by means of a probe which can be bent the desired angle. The tube is allowed to protrude a quarter of an inch at the skin opening and passes downward inside the nose almost to the nostril. A small wick of gauze is carried up a short way in the nostril.

This tube helps in several ways. It favors drainage, permits easy washing through at subsequent dressings, and has a very decided advantage of mechanically holding the edges of the sac wall against the newly made window opening, thus very materially aiding in securing the attachment necessary to insure a permanent opening. After a period of seventy-two hours the tube is removed, and in doing so it is drawn downward through the nose. Each day following the operation, one washes through the tube with the lachrymal syringe filled with boric solution, some eight to ten syringefuls being used at each dressing or until the fluid appears at the tip of the nose rather free from the stain of blood.

Too great stress cannot be placed upon the necessity for washing away the clots and secretions each day for at least ten days. One can readily keep the stab incision open to a degree to admit the fine tip of a lachrymal syringe, and where the edges agglutinate one is able to insert the tip down into the sac cavity with little or no difficulty.

In three days' time the patient is out of the



hospital, can return to his home and appear at



Fig. 5. Wet specimen further illustrating the operation.

your office for the further after-treatments as outlined above.

#### CONCLUSIONS

1. The first desideration is for the patient. He wishes for two things; a cure for his dacryocystitis and a functioning tear apparatus as a finality, at least if he knows that this is possible.

2. Complications encountered—such as orbital cellulitis, inability to remove the bony floor, are all matters of technique and naturally should not be attempted by those not properly prepared to do this work.

3. The small opening made in the skin is imperceptible in a few days following the operation and does not make a scar. This incision being a simple stab wound, it does not need a stitch, permits the insertion of a drainage tube and subsequent irrigation is easily carried out for ten days subsequent to the operation.

The stab wound permits a knowledge of the

interior of the sac wall, its topography and the exact location of the land-mark within the nasal cavity by means of the probe pushed through the floor of the lachrymal fossa.

4. After-care is all important in this operation and is just as important as the operation itself. Many of the failures reported with the use of the intra-nasal operation I believe could be traced mainly to this one thing—lack of proper after-care.

5. We must put out of our minds any particular attack upon the lachrymo-nasal duct. Getting rid of the sac infection—the duct is of no further consequence in a large percentage of the cases and that per cent. is very near to 100.

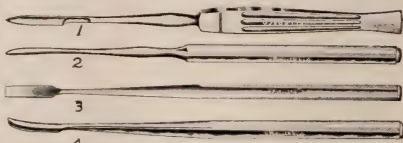


Plate 6, Figs. 1-4



Plate 7, Figs. 5-7

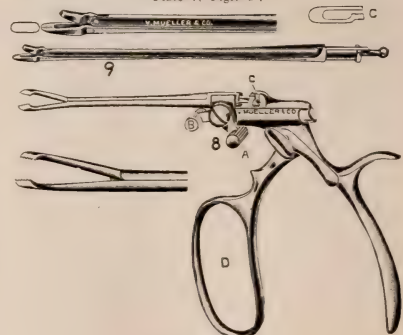


Plate 8, Figs. 8-9

#### DISCUSSION

DR. JOSEPH C. BECK, Chicago: I am very glad to discuss the paper and am perhaps more interested than anybody here, because I am a sufferer from this disease and have been for three years. When I first began to work on the intranasal operations I went to Yankauer and had



him demonstrate his method. I came home with his set of instruments, but failed to get the results he did. I tried the method Dr. Clark has described, doing an external operation and then using a burr directly into the nose, preserving as much as possible of the mucous membrane, and then leaving in a drain for two or three days. I have talked to Dr. Clark and he tells me that is what he does and I think it is a great advantage. I have not allowed anyone to operate on my tear sac, because I am not convinced that the ideal operation is at hand, but I am inclined to believe that Dr. Clark will operate on me at the North Chicago Hospital as soon as it is convenient. I believe his method is correct. The Gradle and Mosher operations as done on the cadaver are all right, but the hole is a little too big for me. Recently I saw a case in Washington in which this operation had been done with good results. Dr. Richardson compared it to a case that he had operated on. Surely Dr. Mosher's idea of a large opening must appeal to any one, but if the same thing can be attained with less deformity and it can be done so close at home, I think it is to be recommended.

DR. MICHAEL GOLDENBURG, Chicago. Dr. Clark always presents his case so well that it is not pleasant to criticize him. It is pleasant to say, that he has modified his work somewhat. A few years ago he did the West operation and now he presents another intra-nasal technique of considerable magnitude. At The Eye and Ear Infirmary we are still doing the extirpation of the sac according to Meller. Our results have been uniformly good. The subsequent epiphora that follows in some cases can usually be controlled by medication or destruction of the accessory lachrymal gland. To me all the intra-nasal operations devised for this condition, usually by rhinologists, seem out of harmony with the pathology present in the sac. If the extirpated sac is slit open, one finds it covered with a tenacious muco-purulent discharge. The mucous membrane is markedly thickened, thrown into many folds, granular and commonly the site of a polypoid degeneration—a pathologic state that apparently should be extirpated. I have recently noted in the last eight or ten cases operated on, an ostial communication between the lachrymal fossa and the anterior ethmoidal cells and am inclined to think, that disease of these cells precedes the lachrymal pathology in a large number of cases.

DR. CLARENCE LOEB, Chicago: My experience with operations upon the lachrymal sac has not been as great as some of the other speakers but I have never seen any results from the intra-nasal operations that compare with those from extirpation of the sac. Until recently, I have never seen or read of an operation that appealed to me from a theoretic standpoint. However, Dupuy-Dutemps and Bourguet, in the *Annales d' Oculistique* for April,

1921, describe an operation which seems to be the ideal one, from a theoretic standpoint. Also, the results reported are very favorable—23 complete cures, 2 partial cures and 4 failures in 29 cases. Briefly, it consists in an external incision, uncovering the sac, removal of the anterior lachrymal crest, resection of the walls of the lachrymal fossa, incision of the nasal mucous membrane, longitudinal incision of the entire length of the sac and suturing of the posterior lip of the nasal mucous membrane to the posterior lip of the sac, and the anterior lips of each to the other. The lachrymal sac thus becomes a part of the nasal mucous membrane, there can be no stenosis, and the tears empty practically directly into the nose. It is an operation which appeals to me by virtue of its simplicity and correct theoretical considerations.

DR. OLIVER TYDINGS, Chicago: As Dr. Goldenburg has pointed out, with the condition of the mucosa after you have done one of these operations, if you operate on an elderly person who has had a dacryocystitis of long standing, you will have recurrences. I have done this operation twice, and after the most careful treatment I could give the sac remained pathogenic and I had to do a Meller operation in order to clear up the trouble. My first conception of treating these conditions was by electrolysis on account of experience with urethral surgery, but there is one fatal objection and that is that you have a bony wall and it is the infringement of the duct and that ascending condition which blocks the canal, which makes it impossible to treat it in that way, as you would a urethral stricture. Any of those operations give a certain amount of relief but if you are contemplating a Meller operation, why not follow Gifford of Omaha and use trichloroacetic acid? That will obliterate the sac and is very successful. The inflammation may be due to some condition in the nose outside of your sac operation, but the Gifford operation will relieve all the disturbances.

DR. EDWIN MCGINNIS, Chicago: I wish to know if Dr. Clark makes any attempt to evert the internal mucosa into the bony opening?

DR. J. SHELDON CLARK, Freeport, (closing): In proposing this combined extra and intra-nasal operation, I believe I have offered you a proposition that will more readily admit, first, the location of the position of the floor of the lachrymal fossa as it presents itself in the nasal chamber. Second, that the irrigations following the operation can be more easily done through the tube and stab wound than it could be done through the puncta and canaliculus as suggested heretofore. In the third place, the placing of the tube assists somewhat in holding the edges of the sac in

apposition to the edges of the nasal mucous membrane, thus assuring the patency of the newly formed opening.

Where indicated, and there are indications for it, I know of no better external operation than the Meller. It gives the operator a very fine sense of well being, but I contend that it destroys the function of the naso-lachrymal passageways. If the patient were aware of this, he would choose an operation that would leave him a functioning tear apparatus, rather than the operation which would destroy this function.

Some one raised the question of the efficacy of this operation preliminary to cataract extraction. I have had no experience in this work. I do know that Dr. West, in his work in the Clinic of Professor Silex, in Berlin, operated on many cases of tear sac preliminary to cataract extraction. In cases where the conjunctival sac was not as clean as one might wish, and the infection due to a slight mucoid secretion coming from the canaliculae and sac, then one might readily dispose of this proposition by tying off the canaliculae close to the puncta.

Dr. Joseph Beck has stated on the floor that he is very gratified with the ideas proposed in this operation and that he will allow me to operate upon him, and if he does so, I shall feel complimented. He has so far escaped an operation and has run away from one or two men and I hope he is not like the general run of doctors and nurses when it comes to matters of operation.

Dr. Goldenburg speaks of his antipathy to the idea of the operation in general and is thoroughly satisfied with the external procedures and that in 1914 he talked with a number of men in Europe who did not think well of the operation. I, likewise, saw a number of men in Berlin in 1913, and they were very enthusiastic about the operation as then done by Dr. West. It was through Professor Holth of Christiana that I learned of Dr. West and the work he had done. I will say that Dr. West had some difficulty in establishing priority for his operation, but I believe he finally succeeded. The abstracts I have seen, and I have kept track of all of them for the past nine or ten years, more and more convinces me that the idea of short-circuiting the duct, as advanced by Dr. West, is sound and is proving more and more satisfactory as men have greater experience with it.

I have had good results. My experience is valuable to me and, of course, it is not your experience. I am still in love with the intra-nasal work and I believe this combined operation that I have given you here today will make the operation more effective and more desirable.

State Bank Bldg.

## THE TREATMENT OF CARBON MONOXIDE POISONING

Carbon monoxide poisoning is one of the most widely distributed and most frequent of industrial accidents, says the U. S. Public Health Service. The gas is without color, odor or taste. It is an ever-present danger about blast and coke furnaces and foundries. It may be found in a building having a leaky furnace or chimney or a gas stove without flue connection, such as a tenement, tailor shop, or boarding house. The exhaust gases of gasoline automobiles contain from 4 to 12 per cent of carbon monoxide, and in closed garages men are not infrequently found dead beside a running motor. A similar danger may arise from gasoline engines in launches. The gas is formed also in stoke rooms, in gun turrets on battleships, in petroleum refineries, and in the Leblanc soda process in cement and brick plants. In underground work it may appear as the result of shot firing, mine explosions, or mine fires, or in tunnels from automobile exhausts or from coal or oil burning locomotives.

Carbon monoxide exerts its extremely dangerous action on the body by displacing oxygen from its combination with hemoglobin, the coloring matter of the blood which normally absorbs oxygen from the air in the lungs and delivers it to the different tissues of the body.

Oxygen will replace carbon monoxide in combination with hemoglobin whenever the proportion of oxygen in the lungs is overwhelmingly greater. Therefore:

1. Administer oxygen as quickly as possible, and in as pure form as is obtainable, preferably from a cylinder of oxygen through an inhaler mask.
2. Remove patient from atmosphere containing carbon monoxide.
3. If breathing is feeble, at once start artificial respiration by the prone posture method.
4. Keep the victim flat, quiet and warm.
5. Afterwards give plenty of rest.

## GLUCOSE TO PREVENT ACIDOSIS FOLLOWING OPERATION

Farrar, in the April, 1921, issue of *Surgery, Gynecology and Obstetrics*, says that a solution of glucose intravenously during an operation at the rate of 0.8 gm. glucose for every kilogram of body weight each hour of the operation will lessen the acidosis incident to operation by promoting metabolism, prevent or diminish the vomiting, and promote diuresis. A solution of gum acacia (6 per cent) in glucose (20 per cent) if given at a subtolerant rate the entire time of operation is an aid to the maintenance of blood-pressure. Carbohydrate feeding before and after the operation, together with the use of sodium bicarbonate, will do much to prevent or lessen acidosis. Farrar suggests that every well-equipped hospital laboratory should have a paid physiologist who could devote his time to the study of problems on the living tissue as the pathologist does on the specimens removed.

## NECESSITY FOR NARCOTIC DRUG INVESTIGATION \*

LESTER D. VOLK, M. D.  
Congressman  
NEW YORK CITY

Mr. Speaker, I desire to bring before this body two matters of very grave concern and importance to the public, both arising out of the narcotic drug situation in this country. The first pertains to a demand from medical and scientific men from every quarter of the United States calling for the report and adoption of House Resolution No. 258, which provides for a thorough, complete, and unbiased investigation of narcotic drug addiction. The second relates to corollary condemnation of administration of the Harrison Narcotic Act, particularly since the enforcement of the law was transferred to the narcotic division of the prohibition bureau of the Internal Revenue Department.

In House Resolution No. 258 and in an address before this body on Friday, January 13, 1922, I called specific attention to rules and regulations issued by the Internal Revenue Department interpreting the Harrison Act, and having the force and effect of law, a document as extraordinary as ever issued by this or any other Government in its presumptuous assumption of authority and ruthless disregard of facts and experience.

I refer to the rulings promulgated October 19, 1921, by the office of the Federal Prohibition Commission, over the signature of R. A. Haynes, Prohibition Commissioner, and D. H. Blair, Commissioner of Internal Revenue.

This ruling, in effect, disposes of a medical and scientific problem relating to the handling of narcotic-drug addicts by eliminating the physician and scientist and turning the entire matter over to Federal police, district attorneys, and favored sanitarium proprietors and underworld peddlers, who have reaped a golden harvest from their nefarious and illicit traffic.

Without any foundation in proven medical knowledge or experience, this ruling asserts that "medical authorities agree" that addicts may not be treated unless confined within prison or sanitarium walls and that "a consensus of medical opinion" is used by the Revenue Department as a basis for the policies of the prohibition commissioner.

In the early stages of the discussion of this problem in this House I received a letter from the Commissioner of Internal Revenue, written in response to a request asking to know upon whose authority the remarkable ruling I have cited was promulgated. The reply stated that medical and other experts attached to the Treasury Department decided these questions.

The only other explanation vouchsafed was con-

tained in the language of the regulation to which I have referred, which says:

The following resolution passed by the council of health and public education of the American Medical Association at its (the council) meeting on November 14, 1920, is pertinent in determining the period over which narcotic treatment should be extended in purely addiction cases:

*"Be it resolved,* That the council of health and public education of the American Medical Association indorses the principle expressed in the California law, section 8½, which forbids the use of opium and its derivatives in the withdrawal treatment of those addicted to the use of drugs for a period of more than 30 days after the commencement of the withdrawal treatment."

The American Medical Association may be stated to be the very bedrock of medical opinion in this nation. It is comprised of the best brain and talent within a noble profession. It has in its membership about 90,000 of the physicians in the United States. It is bound by a code of ethics which has gone further than any other agency to place the practice of medicine upon the highest pinnacle and plane.

These men and this great institution are unimpeachable. Their integrity is undoubted. Their voice carries with it the weight of a professional body upon which the halt and the lame, the ill and well must depend for very life itself. And when they speak by resolution we all may listen in full knowledge that we are receiving the pure thought of medical wisdom and the real consensus of medical opinion.

## AMERICAN MEDICAL ASSOCIATION REPUTATES ACT OF ITS COUNCIL ON ADDICTION

It is of momentous importance, therefore, that the American Medical Association in solemn convention assembled should have arisen in its might and repudiated the minority findings of this so-called council, a group of five men out of this great body, which minority findings they have dared to set forth and officials of these United States have accepted as the solemn opinion of all the medical fraternity.

This repudiation was not the action of a minority committee in the association but resolutions openly introduced and adopted by the vote of the house of delegates of the American Medical Association, representing 90,000 physicians, who had been acquainted with the use made of their organization by the Internal Revenue Department to bolster up unsound policies.

The house of delegates of the American Medical Association also knew to a man this House Resolution No. 258, which specifically described the connivance of Government officials responsible for the Prohibition Commissioner's ruling of October 19, 1921, and of members of the medical profession behind the findings of the council of health and public education of the American Medical Association as a conspiracy to drive narcotic drug addicts into established sanatoria purporting to treat narcotic drug addiction. (See Con-

\*Extension of remarks in the House of Representatives, Friday, June 30, 1922.



gressional Record, 67th Cong., 2d sess., pp. 1335-1340, January 12, 1922.)

With this knowledge at hand, the house of delegates of the American Medical Association, representing a true consensus of opinion in general medical practice, voted on May 23, 1922, unanimous adoption of the following resolution, to be presented to this House:

*Be it resolved*, That the house of delegates of the American Medical Association approves House Resolution No. 258, providing for a select committee of 15 to inquire into the subject of narcotic conditions in the United States—

And so forth. This resolution is a consensus of medical opinion, which neither this House nor the Internal Revenue Commissioner nor the Prohibition Commissioner can overlook or ignore. Nor does it stand alone as an expression of medical thought upon the subject of narcotic addiction and narcotic regulations.

#### AMERICAN THERAPEUTIC SOCIETY BLAMES "CHAOTIC CONDITION" ON RULINGS OF PROHIBITION COMMISSIONER

On May 2, 1922, in the city of Washington, situate in the District of Columbia, an equally eminent body met in convention and deliberated upon the peculiarly ignorant policies of the Prohibition Commissioner with regard to the handling of the narcotic and addiction problem.

This was the American Therapeutic Society, known throughout the world as an organization whose roster embraces the foremost men of this or any other nation in the science and art of healing. Though I have said that the American Medical Association represents the consensus of general medical opinion, I may truthfully say that the voice of the American Therapeutic Society represents the last word in the treatment and cure of disease by those who are numbered among our famous specialists, our professors of medical practice, and our most illustrious scientific confreres.

This body, in its deliberations on the narcotic drug problem, found that rulings of the Prohibition Commissioner "had created a chaotic condition" and "had handicapped the practitioner and interfered with the prerogatives of physicians."

As its "consensus of opinion," the American Therapeutic Society, by an acclamation vote on May 2, adopted the following resolution to be presented to this House:

*Be it resolved*, That this society indorse the resolution introduced by the Hon. Lester D. Volk, to the end that a careful and scientific investigation of the entire narcotic situation may be had so that both the public and the physician may be benefited thereby.

Mr. Speaker, great as are the two learned professional societies whose solemn resolution I have cited, there remains another and equally great aggregation of scientific savants whose lives have been given up to a study of problems peculiarly related to conditions fostered by our modern complex lives, especially in our great cities, where particularly exist the rings

of drug peddlers and sanitarium interests preying on the addict. This body is the American Public Health Association, comprised of the health officers and students of health subjects from every quarter of North and South America.

#### AMERICAN PUBLIC HEALTH ASSOCIATION INDORSES NARCOTIC INVESTIGATION.

On October 19, 1921, Commissioner Haynes promulgated his interesting views on the subject of narcotics. On November 17, 1921, this body, meeting in annual convention in New York, and reviewing the work of and effects of narcotic regulations, anticipated the resolution of investigation No. 258, which I introduced before this body last January by adopting a resolution calling for a scientific investigation of the moot subject under discussion.

Similar position had been taken by this body for three years previous at its annual meetings and was the result of long and exhaustive investigation by special committees appointed to study various phases and problems of narcotics and addiction and of yearly open discussion of this subject.

The resolution was adopted by the American Public Health Association in 1921 was sponsored by Dr. Peter H. Bryce, an internationally known health and scientific authority.

I might well stop here to point out that I have proved my case against the Government officials who claim that their policies represent the "consensus of medical opinion." However, so great and overwhelming is the demand of the medical profession at large for relief and clearing up of this complex and intolerable situation now existing, that the House should have knowledge of all expressions of opinion, that it may sit in solemn judgment upon the public officials under fire.

Therefore I call the attention of the House to the adoption of resolutions supporting House Resolution No. 258 by State medical societies, State pharmaceutical societies, and scientific and civic and quasi medical organizations, the enumeration of which would merely serve to accentuate the general growing demand for the investigation of the narcotic question.

An example of the expression of "consensus of medical opinion" by a State medical society is that of the home State of the Hon. D. H. Blair, Commissioner of Internal Revenue, which is as follows:

Realizing the importance of securing intelligent legislation on this matter at an early date, not only as a means of properly treating those that are afflicted but as a safeguard to the practicing physician, the Medical Society of the State of North Carolina, in convention at Winston-Salem, April 25, passed the following resolution during the meeting of the house of delegates:

*"Resolved, first*, The Medical Society of the State of North Carolina, now in session in Winston-Salem, approves House Resolution No. 258, providing for a select committee of 15 to inquire into the subject of narcotic addiction in the United States, the personnel



of this committee to include all doctors who are now Members of the House of Representatives.

*"Resolved, second,* That this society indorses the position taken by Hon. Lester D. Volk, the propounder of Resolution No. 258, which position he has so ably and admirably sustained in a speech delivered in the House of Representatives on January 13, 1922.

*"Resolved third,* That a copy of these resolutions be sent to the Senators and Representatives of North Carolina in Congress and that they be requested to use their best efforts to bring about the adoption of the resolution presented by Hon. Lester D. Volk."

There can be no controverting of this mass of evidence against the pernicious and ignorant policies adopted by the prohibition department, and a thorough and searching investigation should be made of the facts and incidents relating to the promulgation and enforcement of the order of October 19, 1921, and the conduct of the narcotic division of this department along these lines in the face of overwhelming medical disapproval.

If for no other reason, this House should act because of the humanitarian and economic issues involved.

#### THE CRY OF THE HONEST ADDICT

No more convincing evidence for the necessity of an immediate and complete investigation of the narcotic drug problem could be presented than the facts contained in the following letters which have come to me unsolicited from various parts of the United States. They are merely a few from the collection which I have available. The names of the writers are withheld for obvious reasons.

This is the upright, honest, respectable, and respected addict, comprising from 80 to 90 per cent of those addicted. This is the type of addict whose care and treatment, yea, their very salvation, should command the interest of this wise, considerate, and humane Government. Contrast these with the so-called depraved, degenerate, criminal, underworld type of addict, exploited and advertised by morbid publicity.

As pointed out in my previous speech, there are between one and two million addicts in the United States. Over 1 per cent. of our entire population.

The cries of these sufferers demand that we hear them in the name of humanity. Can we ignore that cry? Can we ignore their plea for help and assistance?

Congressman Lester D. Volk.

My Dear Sir: Recently I have had the pleasure of reading your remarkable speech relating to drug addiction.

Unfortunately I am one of the addicts, not of the criminal class. I am a trained nurse and hold a supervising position in a large hospital. What I have suffered for the past few years since the new laws and rulings came in I never can begin to tell you. I have never bought drugs from the underworld peddlers but will be obliged to resort to that means of obtaining it if something isn't done to assist decent, respectable persons, such as I claim to be. The price of the drug

now is exorbitant and the means of obtaining it is simply torture for ill persons. I have had a dreadful time finding anyone who would help me, as all physicians are afraid of the law.

I am tied up here in the hot city all summer and dare not go away for a vacation, which I need so badly, because I can only obtain three days' supply of the drug and must stay right here in New York to get it. A short time ago I lost my only brother and I could not even go to the funeral, out of town, because I could not go away from the doctor who gives me my prescription and the druggist who supplies me. This slavery is almost unbearable.

Addicts in New York are treated with less consideration and more cruelty than the law allows animals to be treated. All last winter I tramped through the bitter cold weather after my day's work was done to obtain my medicine, and then the fright and terror we live under all the time for fear of being deprived of it altogether and being obliged to admit our addiction, or the fear of being cast into prison and being treated with what is called the "cold-turkey treatment," which consists of sudden and complete withdrawal of the drug from the patient and being hourly washed down with a hose of cold water until cured. I will never submit to treatment at the hands of these brutal captors in a public institution. I will commit suicide on the steps of the Board of Health Building first and show the world how cruel these existing laws are.

I contracted this dreadful curse through an illness, and was surprised to find myself addicted after a very short time. Not one of my friends know of my addiction and I never wish them to, it would kill me and disgrace my family, and no one would dare to give me a position of any kind much less such a fine one as I hold now.

If these people who are torturing decent drug addicts are Christians, I never wish to be one. In the name of God and humanity try to help us to go on our lives as best we can, not force us to any more humiliation. This thing of being registered publicly as an addict is an outrage. Physicians, many of them, would like to help us but are frightened to touch a case of addiction. Oh, for some humane law and treatment for decent drug addicts. Thousands exist. What can the law do by inflicting such awful penalties for sick and unhappy persons. Oh, for a relief from the hell and torture of the last few years—a tortured and frightened woman.

New York, July 1, 1922.

The ruling which creates the above condition of affairs is the one in which the Prohibition Commissioner solemnly ordains:

This bureau can not under any circumstances sanction the treatment of mere addiction where the drugs are placed in the addict's possession, nor can it sanction the use of narcotics to cover a period in excess of 30 days when personally administered by the physician to a patient, neither in a proper institution nor unconfined.

If a physician, pursuant to the so-called reductive

ambulatory treatment, places narcotic drugs in the possession of the addict who is not confined, such action will be regarded as showing a lack of good faith in the treatment of the addiction, and that the drugs were furnished to satisfy the cravings of the addict.

Note that the drug can "under no circumstances" be "placed in the addict's possession" nor "when personally administered by the physician" "cover a period in excess of 30 days," where the addict is "neither in a proper institution nor unconfined."

No other construction can be placed upon this ruling than that it was intended to benefit the sanitarium interests or to encourage a policy voiced by an assistant United States district attorney in the southern district of New York that the best method was to drive all addicts into the underworld for their supply, where they will become a police problem and can be dealt with by the criminal authorities by a voluntary or involuntary commitment.

And if a physician to save a life or prevent the addict from going to the underworld should refuse to stultify his profession and should break this rule by placing "narcotic drugs in the possession of the addict who is not confined"—that is, should cheat the law of a potential criminal (?)—"such action shall be regarded as showing a lack of good faith \* \* \* to satisfy the cravings of the addict."

Truly, a remarkable and learned pronouncement of a humane Government policy.

The following letter is from a woman 75 years old who for 40 years has been an addict. Although dependent upon a pension of \$30 a month and paying \$2.50 a week for her drug, a Federal agent (not a physician) changes the form of administering, making the cost \$30 per week for an inadequate amount, and drives her into the hands of the "narcotic" bootleggers. An example of the practice of medicine by rule and regulation.

—, W. Va., June 12, 1922.

Hon Lester D. Volk, M. C.,  
Washington, D. C.

Dear Sir: I have just noted in the columns of the Cincinnati Post an article regarding the resolution you have introduced in the Congress regarding the operation of the narcotic laws of the country.

I am much concerned in this matter, since I am myself an addict of the opiate habit and have been for 40 years. I find much interest in your views on this subject, since I am persuaded by recent experiences that persons falling victims to these drugs, usually under circumstances over which they have no control, are being unduly punished by our country's laws as they are written and enforced today.

For an instance, I am a woman 75 years of age. I draw a pension of \$30, which is my only income. I have been a drug addict for the past 40 years, and naturally do not hope to recover. I have been allowed by the Federal authorities 20 grains of morphine every five days. For 40 years I have used this amount or more by the needle.

Last week the Federal agent ordered that hereafter

it be given me in liquid form only, which is inadequate in amount in this form, and should I take enough in this way to satisfy the demand of my mind and body to a comfortable measure only it would cost me about \$30 per week. Of course at this it would have been purchased from bootleggers, since I can not get it from the proper authorities at all.

Persons who have to use this drug for disease, as I have to do, should have some reasonable and legal way to procure it. They can not hope even to retain the respect of the community when dealing with bootleggers and such, though persons who have any experience know that anyone will do such a thing when their mental balance demands it.

I am writing to say that I hope you will be able to enact an adequate remedy for this malignant ill, and that it may be soon and effective. Think of a person of \$30 per month income having to spend \$30 per week for a mere comfort, when it could be furnished me at \$2.50, and a big profit realized on it by the seller at this.

Very truly yours,

The following is a letter from another resident of West Virginia. He states that the wonderful cure of ignorant officials is jail, and kick it out. Again, that there are 10 addicts in West Virginia to 1 in 1912. Truly a remarkable statement. It would seem that the present method of handling these unfortunates is to blame:

Hon. Lester D. Volk,  
Washington, D. C.

My Dear Sir: I read in one of the Cincinnati papers an item of your proposed bill as a help to the drug victims of our country, which I have looked for and longed for since 1913, as I always felt some one who is placed in a position to do so would at some time do something to aid those at least who through disease are drug addicts. No one who has never experienced it knows the suffering one goes through, and, as you stated in your statement, all that has ever been done for those unhappy citizens has been to place them in insane asylums and jails, where their self-respect is lost and they either commit suicide or become criminals.

And to think we, a Christian nation, who claim to live under the Christ laws, would so interpret the laws now practiced to clean up our country of the use of narcotic drug users. When one as I have, who has tried with all the strength of my will power to whip it and have visited the asylums, being placed among the insane, and in other ways until all the pride of my soul is dead, and I have a wife and a 5-year-old little girl to support, and without the drug I go blind and can not make a living, while with it I can, though it takes all the money I can make to get it. Yet who is it would not give all, and how much more we would love our country's flag if we felt our Government showed us humanity instead of the inhumane treatment we have so far received.

I come from a family who so far has not one, to my

knowledge, who has been prosecuted for crime; yet in the past 24 months I have gone through a living hell, and if I only could find an asylum for a cure that would not make me feel and be looked upon as a criminal or could go to some of my physician friends, whom I could trust, and let treat me for the dysentery and nervous breakdown I am afflicted with, I would lend him all my aid to cure myself of the awful condition myself and wife also is in.

I only wish I had the command of the English language to express to you the awful condition we are in, and we have been insulted by ignorant officials who's wonderful cure is jail, and kick it out; and I have went down into them hell holes, found nails drove down through boards within 1 foot of your body, while on your cot, when, if you jumped up against the spikes, it might cause one's death, and I have sent up prayers to our Savior as he sent to His Father while on the cross. My Lord, my God, why has Thou forsaken me? So I feel that Christ is my friend and loves me, and I wonder who has carried my wife and myself with our darling child through these past years but the sympathy of our Savior's love?

I know it is not so for any aid from our Government, the land of the free, but we begin to wonder what is free in America today. Yet I still trust my Master to give some one like yourself the light to help we poor drug addicts out of the slough of despond and your plan of putting the treatment back into the hands of reputable physicians will do more to eliminate the drug addicts than all the politicians and petty officers can do, even if an army equal to the A. E. F. is put out to stop it.

In West Virginia today there is, I will safely say, 10 addicts to 1 in 1912. So I have been in all cures of not over three weeks at any one, and if I could get to a place where worries of a financial nature were off my mind and could have three months, I am sure I could keep clear of the awful habit. I'll bless you on my knees to the Giver of all happiness if you will fight to win a law that really will help us to be cured and God will award you for saving many souls from a suicide's death of despair.

Yours truly,

P. S.—Do you, as a physician, know of some treatment where we, my wife and self, could be treated to a successful cure? I have in the past 12 months had experience which, if known by men, you would be bound to believe; that if, trying to be cured. I have gone out of my mind and for three weeks not remembering one thing. \* \* \* I have worked at insurance and made as much as \$500 in one week, but no hope to save a dollar as long as we use the drug and pay the price we have to pay. If you could recommend a place where no hyocine or fake treatment is used or jail or asylums, I will mortgage my birthright to pay it.

The following is a letter from a graduate of some of our widely known drug "cures" in the East. The fear of the hunted and haunted that they may be forced to undergo the horrors and tortures of the

"board of health" treatment, the description of the "compulsory registration," and what it has done, are but too plain. It has been rumored that these lists are the prospective customers of the drug peddler and the prospective victims of the blackmailer:

Hon. Lester D. Volk.

Dear Sir: I write this account of my addiction in gratitude to you for your wonderful efforts in behalf of such sufferers as I am and thousands more, quite as good as I am, right here in New York City, and trust that it may help by showing that all such are not degraded criminals, as the authorities make us out to be.

God grant you health and strength to carry on your wonderful work for us—to the limit.

I will ask you not to use my name, for it would mean the loss of my livelihood and my family need me, and I must care for them. I feel you will understand and I most gladly trust you with my name and address.

New York City, June 27, 1922.

Hon. Lester D. Volk.

Dear Sir: I have read your wonderful speech in the House of Representatives, and I feel that I must write to you and tell you how grateful I feel toward you for the noble and humane stand you have taken for the hunted, hounded, and persecuted drug addicts, of which, unfortunately, I am one. I am glad that some one is big enough, broad enough, and humane enough to understand us. No one except one who has been subjected to the horrors of the last few years can possibly understand what the decent drug addict has been through. This mistake that most people make in thinking that a drug user can only be of a criminal type is most cruel. I want to tell you my story, and I feel that I am but one of many who are of as gentle breeding, respected, honest, and unfortunate as I am.

I am a college woman, the daughter of a judge, the granddaughter of a physician, and of old colonial stock. Unfortunately, through an illness, I contracted the drug habit and was a confirmed drug user before I knew it. I had been given it by a physician during the critical part of my illness, and when weak in the convalescing period, I continued to take it, feeling that I was not strong enough to do without it just then but would stop when I was a little stronger. I became quite well and made up my mind that I would cease buying the drug (morphine).

When my supply was exhausted I simply did not purchase more but at the week end went home to my residence in the country far away from the source of my drug supply. I laughed to myself about people contracting habits. I knew that there wasn't any such thing—it was simply weakness of character and ignorant and common to believe such foolish, fanciful things. I retired and before morning awoke with such distress of mind, horror after horror chasing itself through my mind—such physical distress and torture that I was nearly insane.

For a time it never occurred to me that it was due to the lack of the morphine, but after a few hours of this dreadful agony I determined that it was the lack



of it and consoled myself with the thought that I had ceased using it before I was strong enough to do without its dependence. Before Monday morning when I could get back to town I nearly died from the sudden deprivation of the drug. How I got back into town to the source of my supply I know not, but I reached there in a condition of almost collapse and almost fell into the place.

On securing the usual amount I immediately became my normal self again, and this opened my eyes to the fact that I must have contracted the habit. I continued to take it simply to keep me from making a spectacle of myself among my friends and to enable me to continue my business—for I held and am still holding an important position of trust with many people dependent upon my instruction and advice—and to keep myself in hand as to appear normal, I continued to take just as small an amount as possible to keep myself in mental hand, and consoled my conscience with the promise that when my vacation came that I would find a "cure."

When my vacation came I began my hopeless quest for some one who would cure me. I went from physician to physician, was insulted, jeered at, and almost thrown out of medical office after office, and was told that I didn't want to be cured, called a "dope fiend," and one doctor said to me, "Go without it. What does a man do who has his arm cut off? Why, he does without it. Well, you go and do the same." I could not find anyone who would understand, and when I found one who did, he did not dare to help me. So, worn out mentally, physically, and almost broken hearted, I gave it up for the time, hoping at some time in the near future to find some one who would help me. Then the Boylan law came in and then my worry was to find some one who would even sell me the drug or enough to keep me from acting queer or breaking down with my work, for I had a family on my hands to support. I am a widow, and my little family had to have my support.

I struggled along under the difficulties that the Boylan law made for me, getting the drug anywhere I could possibly get it and paying once \$5 for four one-half grain tablets. A friend of mine who was associated with a druggist got me a little, and so I went on, half insane for fear my supply would be entirely cut off; and in that event I should be obliged to acknowledge my addiction before the whole world—lose my position, in which I am beloved, apparently normal, and respected, and be obliged to creep away disgraced, unhonored, and reviled.

Oh, it was dreadful! What agonies of mind I suffered and agonies of body through lack of sufficient drug to keep me mentally balanced, no one can ever possibly understand. It's a wonder that I did not commit suicide, for I fully made up my mind to do so if I was compelled to make the curse of my life public. Then the dreadful horror of the "board of health treatment" came into existence and I determined to end it all if I was compelled to stand in the writhing, shivering line with crooks and thugs awaiting the daily dole of enough of the drug to keep me going.

Fortunately, before that happened I found a great humane physician, who obtained for me an "exemption" for a limited time. This physician would have cured me had there been any place where a decent, self-respecting person could go to obtain treatment, but there was none. So, after much search I found an advertisement of a western "cure" for addiction. Got into touch with the representative of that "cure" (?) (whom I found later to be a chiropractor) and paid out a large sum of money as a "home" cure.

Taking the last cent I had in the world from the bank with joy, trusting that it would be the means of making me free, I gladly paid it. This chiropractor "cure" representative had associated himself with a New York physician so as to conform with the law as to making out prescriptions for me, and the "cure" was on. I was told that in 10 days I would be completely free of my addiction. They gave me what afterwards proved to be some bottles of Hyoscine, with instructions as to taking it. I took it, nearly killed myself, and fell into a state of unconsciousness which lasted 48 hours, and frightened my family nearly to death. Fortunately I was at home. The two doctors had my money and disappeared when they found I had given up my last cent. My family thought I had a nervous breakdown, and the physician they had called in during my collapse thought so also.

After a few weeks I staggered back to my place of employment, more dead than alive mentally and physically, and continuing the drug, hoping and praying for some help from somewhere, but it has never come. I am still holding my responsible position, and while my heart is almost broken, I am apparently just an active, normal, responsible business woman, honored by my employers and those under me. I have been able, through a wonderful physician, to obtain just enough of the drug to keep me going and normal, and hoping and praying for some relief.

I have a friend who is a trained nurse. She has been employed in one of the public institutions where the "cure of drug addiction" was applied to those unfortunates who fell into the hands of the "drug squad," and rather than go through what she has seen and truthfully relates, I would prefer death and have it all over at once.

The last three years have been years of torture. I thought it was hard enough to have to go to a physician for a prescription at all, but to be obliged to go daily for enough to keep body, soul, and mind together has been almost more than I can possibly endure.

My addiction was brought on by an illness of acute rheumatism, which has resolved itself into chronic arthritis, affecting my hands and knees particularly. Days and days when I have been so ill that I should have been in my bed, I have had to drag myself forth, and whatever the condition of the weather, beating snow or driving rain, I have had to go personally for my prescription—days when the very act of my going out and battling with the elements has only aggravated my disease, and several times has nearly killed me. I have crept to the doctors when my temperature has



been 103 degrees, for, without my drug, I could not exist.

Then the terror of the whole thing has been awful, the constant fear that I might be arrested and thrown into a "cure" with criminals and degenerates has filled my soul with fear every moment of the time. I have never for one moment felt free from the possibility of being arrested or the object of espionage from some of the "narcotic squad." I only want to be cured or left alone. I am not a menace to society, not a blot on civilization, as drug users are termed and called. If they will only let me go the rest of the way quietly alone, I will be most grateful.

The very fact that they keep me in a state of constant fear makes me take more of the drug than I would if my mind was at rest. It keeps my nerves unstrung and terrorizes me constantly. The awful thought that I might, any day, fall into the hands of the police and be railroaded off to be cured, is horror in itself, as the board of health has a record of every addict, his home and place of employment, and I understand that these records are accessible to others. I can never feel safe, and each day seems to me may be the last day that I will be allowed to live my own life and go my own way. A threatening hand, heavy and ever ready to fall, hangs over thousands besides myself. The public "cures" in the city institutions are well known for the cruelty of method employed. Those poor creatures who had money could, during the cure, purchase the drug and thus elude the horrors of the cure, while the penniless ones stood the cure, were tortured and most of them died.

If I were obliged to go into a public institution with a lot of criminals and take such cure as has been administered to those poor creature, I would gladly welcome death, for such procedure would mean my admitting my addiction to the world, and in doing so I would simply be committing suicide—for no one after such publicity would employ me for one moment, and without my work for myself and family I would be much better off dead. I would not submit to such a cure. I simply could not endure it either mentally or physically. I am hoping and praying for some relief somewhere.

I have found in my experience that drug addiction really has not the pleasures that lurid writers claim for it. I have never experienced any delightful languors or sensations—for me it is simply the one thing now that keeps me myself and allows me to continue my work for my little family. So I must have it—and as there is no cure for it, nor any place to go to be cured, if there were, I must continue.

To say that takers of drugs always increase their dosage and finally deteriorate into liars, thieves, and unclean specimens of degraded humanity is untrue. I have never increased my drug in years. I am a wide-awake, clean, wholesome woman, beloved by my family and associates, and always expect to be such unless I am forced by the law to associate with criminals by being thrown into prison to take a "cure"—which I will not be.

Also it is said that drug users flock together, revel-

ing in the morbid joys of using their drug—another falsehood. I never knew but one drug user in my life, and this was years before I became so. I do not know the "underworld" and never in my life ever saw a purveyor of drugs in the street or elsewhere. I would not know one on sight. I have never lost a day's work through my addiction in years, and always dependable, active, and well-balanced mentally—and expect to be so if I am permitted to go my own way, lead my own life, and harm no one but myself—if I am harming myself.

I am so thankful for such a big, wonderful man as you are—one who understands the situation perfectly. I am sure that you will help us and reach down your strong hand and save us from going under amid all this torture and horror that surrounds us just now. God grant you courage and strength to change the situation as it now stands, for without some such help as you are offering us, thousands of decent, respectable, and respected drug addicts will be obliged to end it all some other way.

God help you to help us.

The following is an extract of the testimony of a woman drug addict published by the Nea Service (Inc.), in their release of June 26, taken from a sworn copy which I have in my possession. This woman has undergone practically every known form of treatment without success and with resulting near ruin. Her baby was born an addict. The fallacy and unreliability of the advertised routine treatments and so-called "cures" is shown, and it is an unanswerable document in favor of real scientific study and investigation of this condition:

#### STORY OF A WOMAN DRUG ADDICT

(By Nea Service)

I am a nurse 43 years old, a widow with one son. I have been a morphine addict for more than 20 years. My son was born an addict, but I cured him in babyhood—the only time, it seems to me, when addiction can be cured.

When I was 20 I became ill with appendicitis and a complication of internal trouble. I was sick for three years and had many treatments, and finally had to be operated on.

The doctors gave me morphine, but never steadily enough to cause complete addiction until the last attack, which lasted seven months.

The doctors stopped the morphine at the time of the operation. They lectured me about will power and warned me not to let the morphine get a hold on me. I never had any enjoyment out of it, except relief from suffering. But the damage was already done.

When they stopped the morphine I became a wreck. I could not sleep. I was deathly sick.

I was without morphine for two or three months. Pains, weakness, nervousness, and sleeplessness were driving me insane. I had to have relief. I thought I could take morphine to relieve my suffering and quit when I was well.

I married before I fully realized I was addicted. When I finally found out that I would not stop the

morphine I was nearly wild with suffering. My husband and I talked it over and he finally insisted I must stop trying to do without it.

### BABY IS BORN CURSED WITH DRUG ADDICTION

Then we began a search for some doctor who would save me. We tried and tried, without success—and then baby was born.

He was a fat, healthy looking baby. Then suddenly the nurses wouldn't let me see him. I knew something was wrong.

I got up out of bed and went to him. He was blue and drawn and looked as if he were dying. He looked just the way I did when I needed morphine.

We sent for the doctor and told him our fears. The baby seemed to be dying and the doctor gave him a little dose of morphine and in 20 minutes he was fine and quiet, with a good color and a healthy look.

My baby had been born a morphine addict.

I had the most awful ideas of killing myself and the baby, too. And then I made up my mind I would save him somehow.

It tore the heart out of me to see the way he suffered. He would draw up his little legs and shriek and moan and you'd think he would cry himself to death.

I insisted that he should not have any morphine except just when it would keep him from crying. He only got a few doses, but for 18 or 19 months he was awfully sick.

We stuck it out, and my baby lived and began to get stronger, and was completely cured.

But now I am terrified at what will happen to him if anyone ever gives him an opiate in case something happens to him.

I am constantly sick and scarcely ever able to work, though I used to earn good money as a trained nurse.

What I need is another operation. But I can't because there is no hospital I can find that will take care of my addiction.

I wish I had died when I was born. Or that my son had died in those first awful days.

Addicts like me, accidentally placed in the grip of a terrible disease, are hunted like criminals under present laws. The public does not know that most of us are not criminals at all.

### ADDICTION IS MADE EASIER FOR CROOKS

Recent interpretations of laws placing narcotic administration in the hands of laymen who have no medical knowledge of addiction have made things worse for thousands of accidental addicts like myself, who now must have opiates to live.

But things are easier for the crooks and degenerates who buy their drugs from peddlers.

I am sorry I ever registered as an addict under the law. I think I would be better off if I took chances buying morphine from peddlers.

Instead I am chained to one job, to one doctor. I dare not leave the city 48 hours, because no other doctor will prescribe for me. I have had to refuse several fine positions because of that.

I have to buy my drug every few days. I can not get a supply ahead. The expense is increasing all the time.

### DRUGS COST HER \$1.30 EVERY DAY

Until two years ago I could buy a week's supply for 65 cents. Then it was 90 cents a week. That wasn't so bad. But now it costs me \$1.30 a day.

I know the druggist doesn't want me to come to him any more than I want to. I know he can't help charging me so much more than the drug used to cost. He'd rather not have addiction prescriptions anyway.

Everything is playing into the hands of the peddlers. Out of the hysteria they are getting rich.

The trouble is the public knows only about the underworld addict. They class the rest of us, honest and law-abiding, with criminals.

Honest doctors are afraid to do anything for us beyond what the law allows.

But we addicts long for freedom. We know that our only hope for escape from the cruel chains of the drug habit is through scientific study and research and adequate provision for the intelligent and sympathetic care of addicts.

That is why we hope Congress will study our situation carefully, so that we can look forward to cures when possible, relief when addiction has progressed too far for a cure, and prevention of addiction at the outset.

### THE HONEST AND INNOCENT NARCOTIC AFFLICTED

The above are the class of opiate addiction sufferers declared by the report of the American Public Health Association and by every other report and investigation of reliable source, and in the modern textbooks and monographs on the subject of narcotics and addiction, to be medical problems. Honest and innocent people, from the judge to the returned soldier from France, from the minister to the laborer, from the woman of means and culture to the hard-working wife of the artisan or the self-supporting, honest laboring woman, from the corporation president to the clerk, from the legislator to the average "man on the street"—no age nor sex nor social class immune to the physiological or pathological processes of this disease—the honest and innocent people who have contracted this condition as a result of therapeutic administration of opiate drugs.

They are the neglected, persecuted, and harassed and exploited sufferers today. The doctor or the druggist, terrorized by subordinate officialdom, can turn them from his door. The medical school can refuse to study and teach the facts and care of their condition and needs for its understanding and consideration. Casually appointed so-called "committees" can ignore their sufferings and needs. Hospitals can close their doors to them. Ignorant official subordinates can brutally force them through sufferings and harassments and finally drive them to the underworld peddler and smuggler.

They are the neglected crux of the narcotic drug situation. They are the victims for whose exploitation

the fake treatment or sanitarium cure or advertised remedy contends with the underworld peddler and the extortionist and blackmailer. They are the real sufferers and victims of the narcotic situation today, and of the morbid publicity and hysterical promotion and incompetent administration. Nothing is being done for them, and all honest help and care is being driven away from them by administration of laws dominated by "interested" or partisan or promoting groups. To the honest narcotic addicts and their condition and needs administration turns a deaf ear, led astray by the blare of the trumpets and the glare of the bonfires and the beating of the tom-toms of the "side show" medicine dance of the panacea promoters in medical and lay officialdom.

In what is probably the most comprehensive and accurate report from any scientific organization committee outlining the real needs of the situation, the report of a standing narcotic drug committee of the American Public Health Association, printed in the American Journal of Public Health January, 1920, pages 83-86, inclusive, contains the following:

"The administration of laws and regulations of a too restrictive character, as applied to physicians and druggists as a whole, has apparently resulted in the neglect of this disease by the medical profession and the consequent retarding of the solution of this problem, just as they would if thrown around the treatment of any other disease. The demands of various minor technicalities and the possibilities of unintentional violations render so hazardous the practice of medicine as applied to these cases as to drive away from help to the addict the average honest practitioner of medicine, while they encourage the shyster and charlatan as they do underworld commerce."

There is neither space nor time for full discussion of these cases of the persecuted, neglected, terrorized, exploited, honest, and innocent addiction sufferer. They are discussed in so many places and reports and writings that it is inconceivable that administration and interpretation should ignore them and their necessities.

But administration and interpretation has been led astray by a handful of people in whom it trusted, and has neglected the real literature and record and information available. By the hundreds of thousands these people are suffering and searching for help and relief and, if possible, cure. Driven by hope and desperation they try one after another of the advertised "cures" and "treatments" and institutions. The average result as shown by all investigation and inquiry and literature of competent origin has been failure—not failure on their part but failure on the part of those who do not yet understand their condition enough to achieve success in their care and treatment. That is the cold, hard fact, platitudes and sophistries and evasions of incompetent official or pseudo-official report and statistics to the contrary notwithstanding.

Those who would study and work upon this condition and care for the sufferers to the best of their honest ability and good faith are driven away by manipulated administration and perverted interpretation

and popularized morbid hysteria and false conception and by terrorism and persecution.

The clear and comprehensive report of the standing committee in the American Public Health Association shows the repeatedly demonstrated facts and need of the situation—facts and needs ignored by administration and kept from fulfillment. This report is to be recommended for study and consideration as soon as constructive work and remedy and education is again made possible and the hysterical experiments have ceased to dominate in publicity and administration.

Three years of unbridled power and force should by this time show what these things are doing, both to the harm of the innocent and to the fostering of the evil. Their failure and effects were all warned against in clearly shown prediction and warning from many places of highest authority.

The burden of their viciousness of these years falls upon the hundreds of thousands of innocent addicted. In increasing numbers since my speech and resolutions in January, I have been hearing from these people and their physicians and relatives. A few of the letters and appeals for justice and honesty and mercy and help I have inserted above. Let them speak for themselves, and pray to a merciful God that the administration will at last pay attention to their plight and understand their needs as it did three years ago before the present medical group and their associates came into power.

#### THE DEGENERATE OR CRIMINAL NARCOTIC ADDICTED

The type of criminal or degenerate addict who has been "touted" in the press and in reports and statistics by certain officials and committees and promoters, the "submerged tenth" of the narcotic addicted, is an entirely different matter from those I have just discussed. They are the advertising or publicity exploitable assets of the hysteria creator and publicity promoter.

They are not medical problems primarily and never will be. They are problems in vice and criminality and degeneracy. They have little to do with the real problems of addiction. If they constituted the typical addiction case, or even the larger proportion of addiction cases, there would be no controversy and no narcotic-drug situation today. It is not for their exploitation that the furor recurs in promotion and spectacular propagandizing of their attributes. They are but "smoke screens" to hide the real quarry aimed at.

They are usually shiftless and penniless and sources of profit neither to the cure promoter nor the underworld smuggler and peddler. They are the more or less mythical leaders or members of the "drug rings," the "queens of the underworld drug traffic," the "opium kings," and so forth, that have recurrently occupied the headlines of sensational articles in the newspapers for many years whenever some official wanted publicity or some panacea promoter wanted a new law.

Mr. Speaker, I have, of course, sympathy for their affliction, but in them the element of public safety, as in the nonaddicted of their same type of individual,



dominates the picture. They are primarily and inherently problems for forcible control. The last report from the American Public Health Association, November 17, 1921, states, "The control of this group is essentially a police problem."

The sordid details of selected specimens of criminality or degeneracy taken from such people and exploited in the press and official report have been the stock in trade of the publicity hunter and panacea promoter and have occupied the public press and administrative consideration to the exclusion of the honest and deserving majority. Such types of people have always existed and always will exist, both addicted and unaddicted.

The horrible and morbid popularizing of them and their environment and characteristics and supposed enjoyments has probably been the chief factor in the extension of the disease of addiction among the youthful and curious, victims of the peddler, and furnished free advertising for his wares. For this extension of the situation in the past three years the ignorant or morbid-minded official parading in the public press is responsible.

I have often wondered if these things were not reflections from the psychology of the particular individuals or political appointees who persistently voiced them and ignored the sufferings and needs of the great majority of honest, innocent, and suffering afflicted. After reading the many piteous letters from the innocent and honest addicted and the medical and scientific and other literature of reliable origin and authority, such perversion or breadth of vision and broadly established facts and such reveling in the morbid and obscene requires the psychology of a Nero or of one of the degenerate kings of medieval ages.

And the continued use of such selected specimens of morbidness and criminality and degeneracy to distract from the medical and scientific and public health and economic and sociological problems confronting those who would study and help the innocent and worthy and deserving sufferers and provide for their needs and difficulties and, as far as possible, render competent treatment, is a blight upon modern civilization. It should be exposed and stopped.

#### PERSECUTION OF DR. J. M. MANNING

We can no longer afford to leave the interpretation of the law to the opinions of warring factions or administrative appointees, who change in personnel or may change their minds overnight. We can no longer afford to continue in our national life and administrative offices such situations as called forth the editorial in the *Morning Star*, of Wilmington, N. C., February 14, 1922, and which are calling forth magazine and newspaper comment with increasing frequency and openness of declaration and condemnation.

The editorial deals with the recent trial and acquittal of Dr. J. M. Manning, one of the most eminent medical men and citizens of his state, arrested for falsely alleged violation of the Harrison Act. The editorial states that during the trial it was brought out that subordinate officials were "going about the state terror-

izing doctors and druggists." It voices public appreciation of the statements and attitude of Judge Connor, who condemned the actions of the Government official, and states in part as follows:

"The law under which Doctor Manning was indicted is one of the most wholesome and beneficial laws on the Federal statute books. But, like most Federal statutes, it provides that some department or officer may make regulations for carrying the act into effect. The law has been surrounded with so many abominable and useless regulations that it is almost impossible for a druggist or physician to sell or administer opiates or narcotics without violating some regulation.

"It should not be necessary for a judge to comment upon these flimsy cases brought into court against our best citizens' engineered by 'peripatetic' subordinate officials or whoever may influence or direct them.

"Government by inspectors and deputies during the war may have been to some extent necessary, but now that the war is over the citizen is going to demand that the Government to which he pays such enormous taxes shall protect his rights and not treat him as an alien enemy."

#### OFFICIAL MURDER OF DR. C. F. J. LAASE

It was just such another flimsy case that was brought against my old friend and coworker in medical journalism, Dr. Christian F. J. Laase, one of the most utterly honest men I have ever known, and one of the most studious and devoted to his profession, a man whom I personally know to have started in his narcotic work and study at the request of the officials of the Government in cooperation with whom he studied and pursued his work.

The mere shifting of the enforcement of the Harrison law to the Prohibition Bureau brought into the field new appointees and subordinates who reversed the meaning of the law through arbitrary interpretation and arrested him for doing what their predecessors had advised him to do. He was tried and acquitted, but died as a result of the persecution and harassments he was subjected to in the effort to "get him." Medical journals printed eulogies and medical societies passed resolutions commending his work and writings.

He was killed by the action of an ignorant Government subordinate official. Fittingly inscribed upon his headstone is the epitaph, "A Medical Martyr."

#### SUPPRESSION OF DR. ERNEST S. BISHOP

Dr. Ernest S. Bishop is today probably the foremost scientific student and authority on the subject of narcotics and addiction in this country, if not the civilized world. He was indicted over two years ago by the same ignorant and arrogant official subordinate, and has been held under indictment ever since. This is clearly being used to keep from dissemination the information on this subject contained in a library said to be one of the most comprehensive and complete in existence and to prevent the application of the prin-



ciples evolved by an experience and work known to be the most extensive in this country.

In a reply to a request from me for some of the facts of his indictment and experience his frank discussion of them is revelational of the methods of modern officialdom. In spite of the unanimous protest in the medical and lay press there appears to be some power able to prevent a fair inquiry into his case and to keep him under indictment and his work suppressed.

Information has come to me from other parts of the country concerning other administrative outrages perpetrated against men of high standing and reputation and honor and honesty, "flimsy cases brought into court against our best citizens and studious scientific workers," also communications describing the most brutal and barbarous tortures inflicted upon innocent, honest, and suffering sick people through the uncurbed power vested in ignorant subordinates.

### ELIMINATION OF THE MEDICAL RECORD

There is no independent weekly medical journal in the United States today. The last to go of the independent medical journals devoted to the general practitioner of medicine was the Medical Record. And its passing deserves more than casual mention in connection with this subject of narcotics and addiction. It was recently sold and discontinued under circumstances which at least arouse suspicions involving administrative officials.

For over 50 years the Medical Record has been a bulwark of independent medical and scientific thought, producer of the work of scientific geniuses whose fame reached around the world. It was edited by Dr. Thomas L. Stedman, the dean of and undoubtedly the most scholarly and widely informed and far-seeing and fearless of the medical editors of this country. It was invariably fair, invariably giving space to proponents of both sides in mooted subjects. This journal has been a factor in the development of medical science and honest, independent medical thought perhaps beyond any other medical journal of this country.

It is more than a suspicious circumstance that just prior to its being sold by its publishers and discontinued suit based upon allegations concerning a letter of greatest importance in the narcotic situation, which it published, was brought by the same official subordinate referred to above in discussion of the attacks upon Doctor Laase and Doctor Bishop. It is also a coincidence that this official subordinate's attorney was one of the assistant United States district attorneys involved in the promotion of the Smith-Fearon or Cotillo bill, New York, elsewhere referred to, and the furthering of the claims and ends of its promoters. Because of my interest in medical journalism and this narcotic matter, I have inquired into this episode of the elimination of the Medical Record.

In my opinion as a former medical editor for years and a physician and a lawyer, there were no true grounds for this attack by these two men upon the Medical Record, and it is a matter of grave concern to honest medicine and to independent medical journal-

ism and to honest administration that all the factors and elements in the action of these two men be investigated and that it be determined to what extent their acts were deliberately directed or inspired toward the terrorizing of the owners of the Medical Record and its final elimination.

The intrigue that has made possible this horrible situation, involving the suppression of fact, is directly traceable to a small group of men who have willfully overlooked the findings of science and experience as relating to addiction.

I referred to them in my address before this body on January 13, and would not again venture upon discussion of their unimportant and discredited practices, opinions, and statements were it not for the fact that I am informed that they are even now engaged in a campaign of propaganda seeking to offset the demand of the medical profession for a complete exposition of their practices and an investigation of the whole narcotic question.

Unfortunately, the leaders of this movement reside in my own city of New York, and are without compunction in using the implied prestige of their appointed committee and official positions to continue a state of affairs that has become intolerable.

I bear no malice toward this coterie. I believe they should have their day in court and an opportunity to match their experience and study of addiction against that of other physicians, and that the whole matter of the handling of addiction should then be weighed and shaped in accordance with the finding of recognized authorities upon addiction subjects and the evidence adduced in current bibliography and available scientific information.

### THE PRESENT NARCOTIC DRUG SITUATION

Mr. Speaker, I desire to call the attention of the House to the condition that exists today.

The honest are being persecuted. The innocent are being hounded and harassed and exploited. The sick are being denied care and treatment. The quack and the charlatan and the specific cure promoter are thriving upon their false promises and the hopes and gullibilities of the desperate.

Administration is being perverted and corrupted. Ignorant youth, untaught and uneducated in facts and truth, spurred on and his curiosity aroused by morbid and sensational presentation from irresponsible origins, is being drawn into the snares planted by the harpies of human woe and creators of human suffering—agents of the rapidly increasing criminal underworld traffickers and smugglers and peddlers.

The scientific and clinical work and research of men who have made an honest and able study of addiction is being ignored and blocked from recognition by propagandized unscientific and incompetent "formularizations."

From everywhere come increasing records of aggravation of the narcotic situation and of smuggling and peddling and connivance in it of administrative officials, the logical and inevitable outcome of a situation created by ignorance and propagandized misrepresent-

tation and suppression of education and true information. In the uncovering and elimination of this machinery and the laying bare for open consideration and evaluation of all sides and sources of information lies the most important factor in its remedy and final control.

My colleagues are, some of them, supporting measures for international regulation of narcotics and for further extension of administrative control within this country. Both types of measures to a reasonable and competent extent, applied to the proper phases, are needed for control of some of the addiction problems.

With both types of these measures, if competently and intelligently administered, I am in hearty accord. But from 10 years of contact with the bickering and scheming and experimentation that have gone on, fostered and kept alive in my own State—New York—by forces well known and repeatedly exposed and overthrown, I know that under present conditions nothing more will be accomplished than the further confusion of this matter and increase of its evils and of its hideous sufferings and injustices.

Government administration must have active in this work honest and trusted and intelligent and unbiased men, fully informed and fully educated in all possible and available material bearing upon the subject, and must give due recognition to facts as they exist and not be swayed or influenced by any faction or clique or partisan presentation.

The time has come when the Federal Government must stand aside in scientific matters involving honest professional judgment and permit medical men to practice their profession unhampered by lay administrative dictation. The yardstick of rule and regulation must be discarded for the truer measure of "good faith," based upon scientific medical teachings.

#### WHY CONGRESS SHOULD INVESTIGATE

The really fundamental task of this situation is to force upon administrators and legislators and bring before the courts all the available information upon the subject which they should consider. These branches of our Government must no longer remain periodically bereft of fair and open presentation of complete facts, nor must it further be possible for interested parties or factions to periodically jockey or manipulate the information which comes before them, nor to suppress such information as does not support or accord with their own desires or ends.

It must no longer be possible for the laity and officials and the courts to be uninformed of the mass and bulk of scientific and medical opinion and to have presented as ultimate and authoritative and complete information such now completely discredited announcements and reports as have for the past two or three years presumed and purported to represent the profession as a whole and to express "consensus of medical opinion."

Upon such presentations, accompanied with attacks upon and persecutions and suppression of the sources of qualified utterance and information, policies are constantly being formulated in administrative circles (see Rulings of Commissioner of Internal Revenue), and laws framed for legislatures (see Smith-Fearon or Cotillo bill, New York), and decisions rendered in courts of law (see *United States v. Behrman*, decided March 27, 1922).

This last decision is of great importance because it is capable of being made into another instrument of manipulative effect and terrorism. It may be used to drive still other thousands of innocent addicted to the clutches of the underworld smuggler and peddler and corrupt official. It declares that the prescribing of "unreasonable quantities" of narcotics is a violation of the Harrison Act, another phrase which can be twisted to subserve the purpose of ignorant or corrupt officialdom.

Is this term "unreasonable quantities" to be left to the definition or determination of picked "committees" or officials of no scientific qualifications in this subject of the irresponsible discussion and publicity of inexperienced, advertised, overnight "authorities" and "experts"? Or is it going to be interpreted in the light of all available information from reliable sources, none of it muddled or perverted or suppressed? The outcome of the present narcotic situation can not be predicted until these questions are answered.

How much longer is the mere incident or accident of who gets appointed to "committees" and public office going to determine the interpretation and force and effect of statute law to an extent to which the very fundamental intent of the law and its beneficent purposes can be reversed overnight through change of administrators and administrative policies? How much longer can truth and honesty be attacked and suppressed and charlatanism and ignorance and fanaticism and special interest furthered and exploited through the machinery of Government?

How much longer can individual administrative appointees refuse to consider everything which does not accord with or further the purposes or theories of themselves or their selected associates? Is this country going to be governed by law or by arbitrary official opinion under commission powers of unchecked domination? The history of narcotic law in New York State and city should be a warning, a history now being reenacted in the Federal administration.

In the last three years of quibble over words and phrases and "formulæ" and unanalyzed statistics—in the last three years of vindictive attack on persons and gossip and intrigue and manipulation of office and press—beginning with the advent of a new crop of administrators in New York State and New York City and the Department of Internal Revenue, influenced, as shown in my speech of January 13, a most horrible situation has developed.

This situation is built upon chicanery and false doc-

trines and exploited panaceas—medical pseudomedical, legislative, administrative, and otherwise—and upon ignorance or apathy or incompetence or promotion in administrative office. Destroy that machinery and force upon administration the recognition and application of all facts and material of information and you have made the big and absolutely fundamental step in solution.

Neglect to do this and this country will face the worst horrors yet seen in this situation. Allow the arbitrary opinion of various groups of lay or medical political appointees of no competent experience or knowledge to arbitrarily determine the controversial or mooted questions in a basically scientific question and problem and the present situation will continue and grow worse, and evil, misery, and injustice will increase. Nobody at all familiar with the history of the past 10 years' experiences and experiment and record of this subject would controvert this statement.

This situation has been periodically stirred up by scientific quibbles and squabbles, by sensational and publicity-seeking officials, and by the promotion of narrow or unscientific definition of various phrases and slogans. It has been kept alive by the persistent dissemination and repetition of meaningless phrases and sloganized definitions and arbitrary pronouncements of incompetent character and origin coming from official or pseudoofficial position. The effect and possibly the deliberate intent of this has been to muddy the clear waters of truth and to provide pseudolegal, petty technicalities which have been used to suppress or attack men whose study and work and established honesty and scientific reputation stood in the way of the promoters of commercial or fanatic or theoretical panaceas.

Shed upon this situation the light of truth, and all of the truth, and it will become possible of solution and checking and control. In no other way can this be done.

Make public and widespread all that is known, or available upon this subject so that administrative officials can not avoid or evade facts and real issues and conditions and the public press can not be manipulated into sensational, hysteria-creating advertising of selected cases of vice and degeneracy to the neglect of the needs of the vast majority of the honest and deserving.

With the awakening and arousing and final expression of real "consensus of scientific opinion," as expressed in the unqualified indorsements of House Resolution 258, there can be no further excuse for continued persistence in domination over administration and administrative power and action of the fallacies now openly repudiated.

It rests now with the only unbiased, competent body which can openly and publicly and with widest recognition take up and seriously consider the material and evidence in this narcotic situation and compel its universal recognition—the Congress of the United States.—*Congressional Record*, July 18, 1922.

## GROWN TOGETHER TWINS AND THE LAST ILLNESS OF THE BLAZEK TWINS.

BENJ. H. BREAKSTONE, M. S., M. D.

Surgeon in Chief, West End Hospital, Prof. Surgery, Chicago Medical School, Consult. Surgeon Municipal Tubercular Sanitarium CHICAGO.

Grown together twins who have lived are rather few, but our pathologic laboratories are full of these monstrosities.

Teratology, or the science which treats of these anomalies and monstrosities is not very well de-



Fig. 1. Shows a foetus within the sack of the ovum.

veloped, and there is very little published in the literature. In the second edition of Chambers' Encyclopedia, 1879, there appears an article on this subject by Dr. E. P. Murdock of Chicago. The only other article in the English language has been written by George Jackson Fisher, who

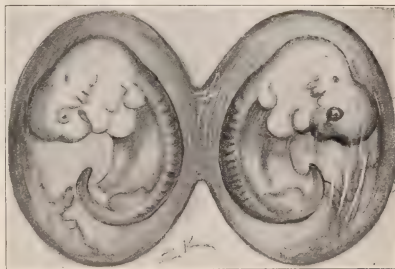


Fig. 2. Two ova have become connected at the walls of contact.

calls his article "Diplo-Teratology" and was written in 1881. St. Hilier is a French authority on this subject whose articles were published in 1877. Since these articles, very little if any

\*Read before North Shore Branch, Chicago Medical Society, March, 1922.



thing has been written on this subject. We call these curios or freaks, but in reality they are merely the result of contact with the uterus of twins, which on account of either injury or disease of the uterus or the ova themselves causes adhesions between the amniotic sacks of both ova and, therefore, both feti are compelled to live in one sack. There is then a struggle between the two feti, and some of the parts either become absorbed or atrophy. We do know that there are cases of complete absorption of the fetus in some disease of the uterus, notably, sarcoma. The only rules that have so far been established in teratology are: 1. Lack of development usually occurs in the median line, for example, double hair lip, and cleft palate, spina-bifida.

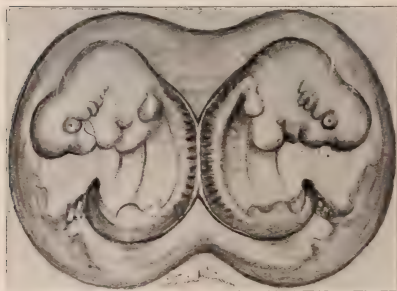


Fig. 3. The conjoined wall almost completely absorbed making one large common cavity in which both ova in moving around have become adherent at the caudal extremity. It depends on where the adhesions occur as to what parts of the foetus will grow together.

Branchial cleft, and cervical rib are rare exceptions, most of the double monstrosities occur on the side. (The accompanying cuts show the process of twins becoming adherent to each other, are self explanatory, and are kindly produced for this article by Dr. Z. D. Klopfer.)

#### FAMOUS TWINS IN HISTORY.

We quote here from an article appearing in *Health* of April, 1922:

"The strange case of twin sisters, bound together by a band of bone and muscle, living for forty-two years and dying within a few minutes of each other, has aroused a great deal of popular interest and has stimulated many inquiries regarding twins, especially those peculiar freaks of nature in which the twins are physically united. Such cases, while rare, are found in history as far back as we have any record.

In a recent article in the *Scientific Monthly*, Dr. Arnold Gesell of Yale discusses the mental and physical correspondence in twins. Probably the earliest records of what are known as "Conjoined Twins" are the Biddenden Maids, who were born in Kent, England, in 1100 A. D., and who, Dr. Gesell says, excited as much curiosity as the Siamese twins in the days of P. T. Barnum. According to an old broadside or poster, they were joined together by the hips and shoulders in which condition they lived for thirty-four years. One of them was taken ill and died in a short time. The surviving sister refused to be severed from the body of her deceased sister, saying 'As we came together, we also go together.' She died about six hours after her sister. This instance which occurred over 300 years ago is a striking parallel of the lives of the twin sisters on the West side of Chicago whose recent death has been featured in the newspapers. The Biddenden sisters owned what was for that day quite an estate, the income from which they left to the church wardens, with instructions to spend it in distributing cakes to all strangers in Biddenden at the close of divine services on each Easter. These cakes were stamped with the image of the twins. This provision was carried out for many centuries and is possibly the origin of the cakes and cookies cut out in the image of men and women of which children are so fond.

"About 1300 the Scotch Brothers were born, having two bodies and two heads and being, as the history of that time says 'Well eyed, well eared and well handed,' but from the waist down the body was single. This peculiar individual (if he or they could be so termed) lived to be twenty-eight years old, naturally attracting great notice and comment. The king took great interest in their training, so the historian says. They learned 'to sing and play upon instruments of music,' one singing treble and the other tenor. They also learned to speak Latin, French, Italian, Spanish, Danish, English and Irish. There certainly was no reason why they could not carry on a continuous conversation with each other. According to the story of the historian, one died a long time before the other.

Two sisters, similar to the Biddenden sisters, were born in Hungary in 1701 and died almost simultaneously at the age of 22. Other conjoined twins whom Prof. Gesell mentions are two colored sisters, born in 1851, two Bohemian sisters born in 1878, two sisters born in Sardinia in 1879 and two brothers born in Italy in 1877. The celebrated Siamese twins were born about 1811 in Siam. They were bound together by a band from the lower part of the chest to the upper part of the abdomen. The king of Siam wanted to kill them, regarding them as bad omens which might bring evil to the country. An English merchant, however, persuaded the king to allow him to put them on exhibition. Falling into the hands of P. T. Barnum, they were exhibited all over the world, and formed the beginning of Barnum's fortune and of his colossal circus. Although born in Siam, the



twins were really Chinese. After earning a large amount of money under Barnum's management, they bought a farm in North Carolina, became naturalized and, at the age of 44 married two sisters. They lived until 1874, dying at the age of about 63, within a few hours of each other. There are at present a pair of conjoined twins, natives of the Philippines, living in Washington. The Director of the Federal Census Bureau has ruled that they are to be counted as two persons.

Dr. Gesell also discusses the similarity in twins,

who have seen Julia Marlowe in the delightful part of Viola will remember the laughable complications produced by this resemblance. In the 'Comedy of Errors' the twin brothers and the two Dromios, their twin servants, cause even more profusion. Giroffe-Girofla, an interesting light opera, shows twin sisters, one good and one bad. 'The Yellow Typhoon,' a mystery story by Harold McGrath, recently filmed with Anita Stewart playing the double role of the twin sisters, is based on the story of twins separated in infancy and living entirely separate and under



Fig. 4. Anterior view of the Blazek Twins as they appeared shortly before death at the age of 43. On careful scrutiny it can be seen that Rosa, the one on the right, is taller and thinner and on her abdomen can be made out the lineae-striae.

both physically and mentally. The physical resemblance between twins has, of course, been recognized, frequently being so striking as to prevent anyone except those most intimately acquainted with the twins from telling them apart. Situations produced by confusing twins for each other have been used in literature and on the stage for centuries. In 'Twelfth Night' Shakespeare uses this device as the basis of his plot. A brother and sister, twins and exactly resembling each other, cause all manner of confusion due to the fact that the sister, for self protection in a strange city, assumes a boy's clothes. All those

widely differing circumstances, yet closely resembling each other.

Many studies have been made of groups of twins with a view to determining the amount of resemblance. This resemblance is not only physical but mental and affects handwriting, ability to spell and draw, likes and dislikes, amusements, and almost all personal characteristics.

Dr. Gesell concludes after reviewing all the available literature on the subject that the similarity between twins is based on fundamental similarity in mental and physical makeup and that it is this inherent

similarity rather than similar experience that produces the striking similarity of tastes, habits and appearance in twins."

I have seen the following grown-together twins:

The original Siamese Twins, who were shown by P. T. Barnum, and lived to be 64. They were both boys and both married.

About fifteen years ago a similar pair of twins was shown with a circus. They decided they

the development of the body and limbs were perfect, but the head seemed to have been sunk into the abdomen. He is still living and is almost 50 years old.

I also show here a picture of the twins which are now with the Sells Floto Circus, who are at the present time 16 years of age, and have the most loose connection of any twins I have ever seen. These could easily be separated, as there are no organs in common, but their mother re-



Fig. 5. Rear view of the Blazek twins, showing the Anus right behind the middle where the right thigh of one and the left thigh of the other meet.

wished to be separated, and they were operated on by Dr. Doyen in Paris, France. During the operation one of them died, and I am informed also that the other later succumbed at the hospital, which was the Hotel Dieux.

Laloo was an East Indian grown-together twin from whose abdomen protruded a body of a female. When I saw him he was about 20 years old, but the female part which protruded never developed beyond the age of two or three, but merely hung as superfluous tissue, although

fused on account of the income derived. The same reason was given in the case of the Blazek Twins.

I also remember seeing when I was a child, Millie-Christiana, who are similar to the Blazek Twins, except that there was only one spinal cord from the lumbar vertebrae down. I remember also seeing a man with three legs, and twins who were double from the diaphragm up.

In these illustrations is a cut reproduced from a photograph taken from a patient who came

under my notice about eleven years ago. She is still living and is now 22 years of age. Her name is Maxine.

THE LAST ILLNESS OF THE BLAZEK GROWN-TOGETHER TWINS

I was first called to see Josefa Blazek, by Dr. Edw. Cunat at the apartment on North Clark street, Chicago, March 23, 1922. I was not aware when I arrived that there was anything extraordinary about this patient. I found two

of their present illness, but also regarding the physiologic functions, and the peculiar anatomy of both.

*History of Present Illness:* Dr. Cunat was called to Rosa Blazek which is the one who gave birth to a child (at right of picture), for ordinary jaundice following influenza. He had treated her for about three weeks, when her sister, Josefa, gave symptoms of what Dr. Cunat suspected to be an attack of appendicitis. He, therefore,



Fig. 6. The Blazek Twins as when on the stage.

women in bed, one of whom was jaundiced, and had an expression of suffering on her face and complained of pain in the right side of her abdomen.

When I lifted the covers to examine the patient, I found that she was attached to another woman, whose name is Rosa, at the ilium back. I then realized that I had the Blazek (grown together) twins to treat. Inasmuch as this was an extraordinary occurrence to me, I examined both women in detail, not only from a standpoint

called me in consultation to see Josefa, as Rosa was about well. In looking for a cause for this ailment, we discovered these twins were not used to eating meat in the old country, and when they arrived here a number of weeks ago, they began to eat an abundance of meat. Their manager told me they ate as much as six pounds daily as an average.

*Physical Examination:* I found the two sisters lying in bed on their backs. On inspection, Rosa was slightly jaundiced, whereas Josefa was

more deeply jaundiced, had an expression of pain on her face, and held her right hand on her abdomen. I had them get out of bed and found that Rosa was taller and thinner and looked younger, whereas Josefa was shorter, heavier, her face was much more full, and she looked older. On walking, I found that they had to step sideways, although they could walk forward and backwards, but when one walked forwards the other necessarily had to walk backwards. On exposure of the abdomen on Rosa, it was rather pendulous and had the lineastris as



Fig. 7. Front view of Maxine.

evidence of having borne a child. As they lay in bed we found the two bodies tapering toward a common point in a V-shaped manner, and beneath the point of union another inverted V-shaped separation for the legs, and each one as she lay in bed had her respective legs over the other so that one would be under the impression that the vagina and rectum were both in the middle of that point, but on uncovering them entirely we found that the feet of one were opposite to the feet of the other, and between each one's thighs there was a vaginal orifice. The anal orifice was entirely out of view, as we looked

at the points from in front, but on turning the patients on their sides or elevating the thighs we found the anal orifice directly behind where the thighs of both join, so that this orifice was in the middle of both twins, and was, therefore, a common anus.

On bimanual examination, I found that Josefa had a rudimentary vagina with no hymen, and rudimentary uterus, whereas Rosa, who had the lineastris, had a lacerated perineum, a normal uterus, with a lacrated cervix. Exploring the rectum, it was common to both. I found that the sigmoid in Rosa emptied into the rectum about seven inches above the anal orifice, whereas in Josefa it emptied about four inches above the anal orifice. This I was able to determine with the aid of a rectal tube.

Palpating the connection between both twins I found that the connection was mostly of soft parts, varying in diameter between nine and fifteen inches, and I could make out a bony union between both ilia, as well as a probable union between the ends of both sacra terminating into a common coccyx. The temperature of Rosa was normal while that of Josefa was subnormal. I made a provisional diagnosis at that time of catarrhal jaundice and cholecystitis, or appendicitis, in Josefa, and an almost cured catarrhal jaundice in Rosa, and ordered them to the hospital.

This they did not wish to do, and I did not see them again until they were taken to the hospital by their attending physician, Dr. Edw. Cunat, on March 25.

*Past History:* These twins were the second birth, and the only twins of their mother, who gave birth to four other children. They were born at a hospital in Prague, forty-three years ago, and their mother did not have an extraordinarily hard labor. Their mother died at the age of 65, one and one-half years ago, cause unknown. The father is still living and is 85 years of age. They began to walk at the age of four and, like other children, they could romp, and even climb trees. They began to talk in their second year. They learned to read and write, and can speak several languages. They could do every kind of work that other women do. They both play the violin. Josefa had diphtheria at the age of 14, and Rosa was peeved because she had to be confined to bed, although she was not ill. In 1908,



Rosa had a vesical calculus, for which she was operated on in Prague. In 1909 Rosa became pregnant, and gave birth to a male child, who is now 12 years old (see cut) and perfect in every way, and of the average intelligence. This child was never nursed by its mother, but was fed by a wet nurse. On questioning, Josefa claims that she had libido, and that she had labor pains as well as Rosa, who gave birth to the child, although she admits that they were not as severe as Rosa's.

They arrived at the West End Hospital on the morning of March 25. Our beds were too small to hold both of them and we had to provide them with a double bed. They walked into bed and Josefa seemed very sick and somewhat apathetic. Rosa, however, looked well. They were both put to bed, and the temperatures were taken. The temperature, pulse and respiration were both about the same. During their stay in the hospital the temperature, pulse and respiration were as follows:

Date	Hour	Temp.	Pulse	Resp.	Temp.	Pulse	Resp.
JOSEFA				ROSA			
Mar. 25	1:30 P.M.	98.8	94	20	97.8	90	20
	7:30 P.M.	98	88	20	98	100	22
Mar. 26	6:00 A.M.	98	100	20	98	100	22
	10:00 A.M.	98	100	22	97.8	110	20
	7:30 P.M.	Sleeping			98.4	100	22
Mar. 27	6:00 A.M.	97.4	92	22	97.4	92	20
	2:00 P.M.	98	88	22	98.6	90	18
	7:30 P.M.	98.6 ax	94	26	98 ax	88	20
Mar. 28	7:00 A.M.	98 ax	88	30	98	100	26
	10:30 A.M.	80 irre	32			96	20
	1:00 P.M.	98.4 ax	84	30			
	3:00 P.M.	..	80	..		80	22
	6:30 P.M.	99	100	32	98	88	32
	9:00 P.M.	..	94	30	98.4	90	28
Mar. 29	3:00 A.M.	..	80	36	..	78	..
	4:30 A.M.	..	92	..	..	..	..
	6:00 A.M.	90	..	..	..	..	..
	8:00 A.M.	108	..	32	..	120	38
	11:30 A.M.	101.8 ax	120	48	100.8 ax	110	32
	4:30 P.M.	102	..	..	102	..	..
	6:00 P.M.	103 ax	126	..	102	120	40
	7:30 P.M.	..	120	82	101.9	120	52
	8:45 P.M.	101.6	122	64	..	..	..
	9:30 P.M.	..	130	62	..	..	..
	10:30 P.M.	..	134	64	101.6	126	56
Mar. 30	2:25 A.M.	Expired			Expired	7:37 A.M.	

**Bowel Movements:** We could tell whose bowels moved by watching the abdomen. Especially when Josefa was much jaundiced, and Rosa was not, Josefa's defecations were slate colored, whereas Rosa's were normal. Josefa was constipated most of the time, whereas Rosa had more or less normal bowel movements.

**Laboratory Findings:** There was nothing abnormal in the urine except that there was no

bile in Josefa's urine. The blood findings were as follows:

	March 25		
	Hemoglobin	Red cells	Leucocytes
Josefa	80%	4,800,000	8,000
Rosa	90%	5,000,000	7,000

No spirochetæ found, dark field illumination.

Culture media inoculated from blood have remained sterile.

It was thought at first that this jaundice might be of the epidemic variety, such as recently occurred in New York, but our laboratory findings did not coincide with this opinion.



Fig. 8. Rear view of Maxine.

**X-Ray Findings:** There was never any x-ray picture taken of these twins during life. There have been several taken after death, and both the technicians claim they got very poor pictures. Inasmuch as one x-ray man is quoted as having made a statement that it was impossible for Rosa to have given birth to a child. I reiterate that Rosa had the linea stria, a lacerated cervix, and perineum, all of which are proof she has borne a child, besides I am informed Dr. Fara, a member of the Chicago Medical Society, was present at the hospital in Prague when this child

was born. Besides, their manager, Mr. Rose, has had these twins and the child since the child was three days old.

It is not my province here to comment on or criticize the medical treatment of this case. The only thing I was interested in was when Josefa became very ill, and Rosa was more or less normal, that an attempt be made to separate these twins, because the symptoms in Josefa became steadily more alarming and showed a profound



Fig. 9. The Honduras Twins with the Sells-Floto Circus.

cholemia, and she grew progressively worse, so that I advised that an attempt be made to separate them. Inasmuch as a physician came into this case in an unethical manner in the last few days of their life, and we did not have his cooperation, he therefore advised against anything that was suggested by both Dr. Cunat and myself. He even refused to call in consultation some of the leading men in the profession because we suggested it. There is every reason to believe that, barring accidents, that the operation

would be successful, in so far as Rosa was concerned, for at that particular time Josefa's condition was such that there was no hope for her. Therefore, she was not to be considered. But it seems that the last attending physician did not consider the welfare of either of these twins, and rather took orders from the brother, who traveled with them.

*Observations:* These twins were separate entities. When I first saw them, their pulse, respiration and temperatures were about the same, but the pulse varied with the excitement of one or the other, such as happens in any other two normal individuals. In the manner of food and drink, they also had different likes and dislikes, as well as they had different impressions of people and other subjects. In fact, they were two different individuals, whose bodies united physically, and the only common thing about them was the rectum. It would not have been a difficult matter even in health to have separated them, and probably save both. We could have saved the existing rectum for Rosa, and if Josefa also lived we could have made an artificial rectum or have done a colostomy. The cutting through of soft parts and bony tissues would not have been difficult.

#### A PSYCHOANALYSIS OF SO-CALLED BORDERLINE PULMONARY TUBERCULOSIS\*

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In presenting this paper my intention is not to offer a scientific clinical treatise on the pre-tubercular and the incipient stages of tuberculosis, with their pathology and symptomology. I rather wish to discuss the psychological nature of the disease.

I wish to deal 1, with the patient's as well as with the physician's state of mind; and 2, with the best methods of handling a so-called borderline case:

Of all the ailments human flesh is heir to, the ailments incident to the pre-tubercular and incipient stages of tuberculosis are the most eluding and the most difficult to diagnose. Those of us who are doing tuberculosis work are many a time "up against it," when called upon to make a

\*Read before the Tuberculosis Section of the Los Angeles County Medical Society, March 22, 1921.

diagnosis. For in no specialty is the so-called *borderline* case so often encountered as in tuberculosis. One is often at a loss to make a diagnosis even when he takes advantage of the entire armamentarium of diagnostic agents as well as clinical findings, such as cutaneous tests, enlarged glands, appearance of patient, loss of weight, night sweats, poor nourishment of the body, dry cough, anemia, temperature, and many other findings, more or less pathognomonic of the disease.

Even after taking all these factors into consideration, there are times when one cannot incontestably state whether the patient is tubercular or not. Indeed if one is too hasty in his diagnosis and pronounces a patient, under consideration, as incipient tuberculosis, which is not the case, the consequences may prove psychologically disastrous to such a patient.

Too pedantic a regard for slight changes on percussion and breath sounds is bound to lead to errors in diagnosis.

Edward O. Otis, writing in the *New Orleans Medical and Surgical Journal* for the year 1914, states: "The presence of physical signs, definite or indefinite, with no symptoms of bacterial toxemia, which are interpreted to mean active tuberculosis and the patient exhibiting such signs is accordingly removed from his family and his employment and is consigned to a sanatorium. where there is at least some risk that he may receive a new and active infection; whereas, the individual was in no way ill and probably never would have had active clinical tuberculosis."

We all know too well that every specialist looks at his patient from the rather narrow standpoint of his specialty. He often finds *something* in his new patient coinciding with his specialty, to find cause for treatment.

The chest or tuberculosis specialist is no exception. Because of the great difficulty of correctly diagnosing a suspected case, we are often inclined to give the patient the benefit of the doubt—which is good practice, and pronounce such a case a suspect or incipient tuberculosis, and then proceed to treat him accordingly.

Here I wish to emphasize the fact that there is no absolute pathognomonic sign or symptom characteristic of incipient tuberculosis. *It is more of an art than a science to recognize early tuberculosis.*

Good clinical judgment is more instrumental in diagnosing early tuberculosis than deep scientific knowledge of the fine points of the disease. In a great number of cases it is absolutely impossible to make a diagnosis on one examination. Close observation and repeated examinations are often necessary before a definite conclusion is formed. The knowledge of the family history of the patient is very important in the diagnosis of early tuberculosis. If the patient was exposed in childhood to tuberculosis, he usually makes a good candidate for the disease. It is practically always in childhood that tuberculosis begins. It usually lies dormant in the system until some intercurrent affection debilitates the body, decreases its resistance and thereby liberates, so as to speak, the dormant, tubercle bacilli and sets up a tubercular conflagration.

This usually occurs at the age of adolescence, at a time, when the human organism is burdened to the breaking point.

With all these facts in mind one still should not be too hasty in making a positive diagnosis of pulmonary tuberculosis before he is absolutely positive of the correctness of his diagnosis.

It seems to me that a great deal of mental injury is done to a patient when he is pronounced tubercular, if it develops later that he is not tubercular.

Of course, since the patient's chances for recovery are greater when the disease is discovered in the early stages, the tendency in recent years to treat every "suspect" as tubercular, has some justification. But as a result of this tendency many a healthy man has been sentenced to serve a term in a sanatorium; banished from home and family; many a one made to spend his last cent to go to a climate suitable to cure tuberculosis. Those of us who are working in free tuberculosis clinics are appealed to many a time by patients in apparently comfortable circumstances. They do not belong to charity clinics, but come there, according to their own statements, for an honest and unbiased diagnosis. These unfortunates have been told by their family physicians that they have a "touch of tuberculosis," and it made an indelible impression on their minds; and even after visiting the highest authorities on tuberculosis, and being told time and again that they are not tubercular, still the



original diagnosis of the "touch" lingers in their minds, and from a psychologic point of view, they are practically tubercular,—mentally.

The word "touch" should be obsolete in the language of the physician, for many a sin is bound to be committed in its name, as many a sin has already been committed; in some instances innocently, in others with ulterior motives.

Those of us acquainted with army statistics on T. B. know well enough that many a tubercular patient, a supposed "suspect" or "incipient" case, or possessing the proverbial "touch" proved to be a first class soldier when turned out of the sanatorium. And a thorough examination by T. B. specialists often brought out the fact that even the symptoms of "incipient" tuberculosis were absent.

In fact, "watchful waiting" in tuberculosis is in some instances as important as in diplomacy. Fishberg says: "A hasty diagnosis is as dangerous as neglect to recognize active and progressive disease. Delay does not mean sure death of the patient; if he is kept under careful observation, we cannot be too late in making a positive diagnosis."

However, it must also be remembered that an honest error in diagnosis, in pronouncing a non-tubercular to be tubercular, will at times result in a great deal of good. For instance, a person in delicate state of health due to overwork, will often be benefitted by being placed in a sanatorium.

What the patient must guard against is questionable practitioners and institutions. Certain sanatoriums and physicians with a commercial turn of mind, take advantage of the honest error in diagnosis, just stated, and are constantly in search of so-called "incipient" cases, for such cases are financial assets. And an ardent searcher usually finds what he is after.

One cannot protest too vehemently against practices of this nature. They lead to untold harm. Once a patient is pronounced tubercular, the stigma of tuberculosis will remain with him the rest of his life. His family, his business associates, his friends, avoid his company. As a result he is made to suffer untold mental agony, some patients actually becoming invalids.

The mental attitude of a case pronounced tubercular is of great importance. Some patients

take the physician's verdict gracefully, take it with a certain degree of optimism. They are the born stoics, the born fatalists. The knowledge of their condition does not rob them of their natural state of mind. But there is the class of born neurotics and pessimists. Their mentality must be taken into consideration more so than the mentality of the previous group. A hasty verdict of tuberculosis is often sufficient to sentence them to a life of misery and permanent mental and physical invalidism.

In conclusion I beg to emphasize the great responsibility that rests with the tuberculosis specialist; the necessity of careful, unhasty statements, the necessity of prolonged observation of each suspicious case. I wish to emphasize the urgent need to eliminate all conflicting symptoms, and the importance of being positive about the exact condition of the patient before freeing him or sentencing him to a life of tuberculosis.  
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#### DIAGNOSTIC SURVEYS BY DIAGNOSTIC COMMISSIONS FOR ASYLUM POPULATIONS

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The relation of focal infections to the cause, pathology and rational treatment of so-called epileptics and the equally so-called insane, is of increasing interest if not imperative importance. Thus, during the last eleven years, I have found focal infection present in all of more than one thousand consecutive cases of "epilepsy," otherwise more properly called chronic convulsive toxemia. Thus, again, during the last four years, at the New Jersey State Hospital, Dr. Henry A. Cotton has found focal infections constantly present in certain forms of "insanity," otherwise more properly called chronic psychotic toxemia. A distinguished neurologist, Dr. Herman H. Hoppe, has just reported to me a case in which he had clinically demonstrated that a focus of infection in the frontal sinus had been the cause of a confusional insanity. In the practice of the same distinguished neurologist, some six or eight years ago, infection of the colon was similarly demonstrated to have been the cause of a simple melancholia that had kept a useful lawyer incarcerated in a sanatorium for three years and that



cleared up in three weeks after the underlying condition had been surgically corrected by an operation at my own hands. An eminent internist, Professor Martin H. Fischer, but recently had a case of acute maniacal disturbance clear up following the removal of painless apical abscess involving but a single tooth. Multitudes of similar instances could be recounted from these and other equally reliable sources. Those here given are cited only to illustrate the rapidly broadening experience of the general profession in all parts of the country. In other words, as indicated not only by these instances but by a rapidly growing literature, the etiologic role of focal infections is being very generally recognized and acted upon—everywhere except among the classes in which they are productive of the most tragic results. I allude to the epileptics and insane now incarcerated in the asylums of the country—the word asylum being used to designate a purely custodial institution as distinguished from a hospital which is a curative institution. I desire also to make clear that very generally, the responsibility for this condition in the asylums is due to the “system” and not to the indifference or incapacity of their medical officers.

#### *Fundamental Facts and Their Significance*

The experiences of Dr. Cotton among the “insane” and of myself among “epileptics” are parallel in several important particulars. Thus, 1. all cases—all!—as determined by physical and x-ray examinations, have splanchnoptosis; 2. all cases—all!—that have been subjected to surgical exploration, have had focal infection of the intestinal tract associated with visceral displacements and bacterial involvement of the mesenteric and mesocolic lymphatics; 3. other foci occur in order of frequency, in the teeth, tonsils and accessory sinuses; 4. still other foci occur occasionally in the genito-urinary organs of both sexes and in other organs and structures. The constant occurrence of intestinal infections in these cases is explained by the fact that they may occur independently of any other focalized infection; that they always exist in presence of foci in the teeth, tonsils and sinuses; and that they often persist after all other foci in teeth, tonsils, sinuses and elsewhere, are eliminated. The observations of Dr. Cotton and myself further agree in the particular that, as shown by histories given, these

foci, or some of them, wherever located, are antecedent to the convulsive, psychotic or other toxic phenomena. The relationship of cause and effect is therefore logically inferred. The demands of the law of cause and effect are, however, further satisfied by the fact that, in many of these cases, the removal of the cause has resulted in the subsidence of the effect—or, in other words, in the cure of the patients. These observed and amply substantiated facts relate to the welfare of hundreds of thousands of “epileptics” and “insane” in asylums; to the welfare of as many more who ought to have active treatment; to the happiness of their millions of relatives and friends; to the many millions of dollars loss, economic and direct, incurred by the state. The possible significance of the great underlying truth is, therefore, so profound that the problem, viewed from this angle alone, ought to be neither ignored nor deferred by either the profession or the public.

#### *Independent Diagnostic Surveys*

The etiologic and pathologic findings just recorded, while amply confirmed by incidental cases at the hands of various practitioners, by at least one large institution and, in a more or less desultory way, by various other institutions, yet rest essentially upon my own experience of eleven years confirmed by that of Dr. Cotton covering the last four years. To both Dr. Cotton and myself our experiences, severally or jointly considered, are conclusive. There are many members of the profession who maintain our views. There are, however, others, especially those who were taught the older doctrines, who are honestly incredulous. There are still others who, without considering the facts for a moment, turn from them and their deep significance with resentment if not actual hostility. I consider it unfortunate that some of this latter class are in charge of institutions that control the welfare and destinies of many thousand patients of the type under consideration. But in view of the fact that they do occupy such positions and in view of the great human interests at stake, I urge that it is of the highest importance that the fundamental scientific facts of causation and pathology should at once be put to the most crucial test. This is the basis for such a test: If I have found focal infections with associated definite pathology in one thousand consecutive cases of “epilepsy” and if Dr. Cotton has found similar conditions in a

similar or larger consecutive number of certain types of "insanity," logically the same findings must be possible in any other thousand consecutive cases of "epilepsy" or in any other thousand or more consecutive cases of similar types of "insanity." This fact points not only to the practicability but to the importance of independent, thorough and comprehensive diagnostic surveys of asylum populations. Such surveys along the lines of focal infections, even if confined to a few institutions would tend either still further to confirm or to disprove the findings and conclusions of Dr. Cotton and myself. But, while asking for the most rigid determination of facts, this suggestion is not offered in a spirit of banter or controversy but solely in one of constructive co-operation with progressive medical officers of these institutions. The sole objective should be to determine the incidence of focal infections among "epileptics" and the "insane." How many have infected and poison-producing teeth or jaws? How many have similarly diseased tonsils? How many have suppurating sinuses? How many has displaced and consequently infected intestines? How many have foci of infection in other organs or structures? How many have actually infected blood streams? To what extent have there developed secondary foci in other organs and structures?

#### *Diagnostic Commissions*

Diagnoses in asylums now are made by the staffs of the respective institutions. They may be classified as neurologic or psychiatric or neuropsychiatric, or psychoanalytic. Only rarely if at all do they embrace a careful appraisalment of active physical conditions but are confined chiefly to enumeration and appraisalment of phenomena connected with what are called the mind and nervous system. What is here insisted upon is that, in every case, there shall be a highly specialized diagnosis of every possible physical and clinical feature, all determinations to be made by the most modern scientific methods. Among modern scientific methods of diagnosis none has been more definitely evolved than the group study of cases. The newer knowledge with respect to focal infections, with its revolutionizing influence on all medical science, more than any other one thing, has forced the development of group practice. In no branch of scientific practice, diagnostic or therapeutic,

is group co-operation so imperatively demanded and so thoroughly impossible as in the existing generally prevalent system of asylum treatment of "epileptics" and the "insane." The whole situation would seem, therefore, to call for the appointment of a group made up of certain specialists to act for the present as a commission to conduct a diagnostic survey of an institution or institutions under the control of the state. It ought first to be provided with ample physical facilities—a general analytic laboratory, a bacteriological laboratory, an x-ray laboratory. The personnel of such a commission ought efficiently to cover the departments of analytic chemistry, including haematology, bacteriology, rentgenology, dentistry, laryngology, ophthalmology, with an abdominal surgeon and an internist to conduct the general physical examinations and to interpret and correlate the finding of the technical specialties. Of course, as neurologists comprise the staff of the institutions, a neurologist would not be on the commission, the very object of which would be constructively to check up the neurological diagnosis already made. Then, too, as all medical officers of these institutions must either favor or oppose the whole diagnostic movement they deserve to be spread from the equivocal position of determining facts that relate to their preconceptions, practices or possible personal interests. The functions of such a commission would be purely diagnostic and its tenure would end with the completion of the diagnostic survey.

#### *Clinical Values and Diagnostic Interpretations*

One motive for the appointment of independent diagnostic commissions is to secure for the patients not only the highest technical skill available but examinations by methods calculated to reveal rather than to conceal the truth as to their exact condition. Thus, for instance, I have had cases referred to me with the statement that there was nothing the matter with the tonsils when a little pressure with a laryngeal mirror would squeeze pus from one or more crypts; others have come with the assurance that the x-rays revealed normal teeth when a properly secured film showed apical abscesses at from one to a dozen different teeth; others in which the abdominal viscera, x-rayed with the patient always prone, was reported normal when one picture taken with the patient erect at the time the

barium was ingested; another, taken six hours later, with the patient prone; and another taken after twenty-four hours with the patient erect, demonstrated extreme gastro-coloptosis with fecal stasis due to ileal bands and to retardative angulations. These conditions always imply to the observer familiar with living pathology of the abdominal viscera, certain other definite invariable conditions, namely, infection of the intestinal follicles, infection with enlargement of the lymphatics and venous stasis of the mesenteric circulation. These instances are cited to show the importance of first, an adequate diagnostic equipment; second a correct diagnostic technique in determining the underlying physical facts; third, a proper appraisal of their clinical values when, fourth, they are interpreted by persons practically familiar with the living conditions to which they relate. The appointment of diagnostic commissions would, furthermore, insure the actual use of adequate equipments which, it is known, have been generously furnished to more than one institution but in which no general diagnostic surveys such as here outlined, have ever been so much as attempted.

#### *The Economic Phase*

It seems almost a disgrace that where humanity, where life and health or what is more precious than either, sanity, are concerned it should be necessary to quibble about the chips and whetstones of cost and profit. In the last analysis, however, money becomes the measure of values and it is therefore necessary to take it into account in connection with the proposal for diagnostic commissions. Of course the members of each commission must be paid and to secure the proper service, they ought to be reasonably well paid. But the medical profession has always been ready to make sacrifices for the public good and would probably do so in the present instance. This being true, probably from \$10,000 to \$12,000 would secure the services of a corps of experts for a period of from six weeks to two months to make a diagnostic survey of an institution of approximately fifteen hundred inmates. Laboratory and x-ray equipments will cost about \$25,000 or a little over \$6.00 per capita. On this basis, at the New Jersey State Hospital, an institution of 800 admissions annually, the resulting savings on maintenance of patients alone has been estimated at

\$90,000 per year. A conservative estimate, based upon the findings of the National Committee for Mental Hygiene as to the number of insane in asylums, indicates that in such institutions and in alms houses and reformatories, there are more than 335,000—a third of a million—insane in the United States who are receiving public aid. Add to this 14,937 epileptics and 40,519 “defectives” in institutions a year ago, and add to all the increase in each class for the year and it will be seen that the public is today supporting in excess of 400,000 persons in what, with but a few honorable exceptions, are purely custodial institutions. These figures, on the basis of savings at the New Jersey institution, show possible savings for the entire country of \$18,000,000. And this is on maintenance alone, no account being taken of the economic value of productive energy restored to the community by recoveries. Of course while considering economics it would be sentimental if not silly to allude to the restored happiness of thousands of present bastille inmates and to the joy of their millions of relatives and friends.

#### AN APPEAL

This article is written as an appeal to the general medical profession for co-operation in securing the diagnostic survey of asylum populations. There is probably no one subject that appeals in a practical and humanitarian way to so large a number of general practitioners as does the care of epileptics, the insane and associated classes. The figures already given show that on the average there are about three of these cases to every general practitioner in the United States. They occur about equally in every section, in every neighborhood. The institutions are crowded and their medical officers, many of them of the most progressive type, are appealing for such change in the “system” that they can do something actually curative for their cases. In the circumstances each member of the medical profession is asked to use his or her influence with asylum directors, state charity commissions, legislatures and governors, to secure the equipment and personnel necessary to give these unfortunate classes the benefit of the latest and best development of science in determining the fundamental facts of their illness.

5 W. Eighth St.



## THE X-RAY DIAGNOSIS OF PEPTIC ULCER\*

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The refinements in the roentgen diagnosis of peptic ulcer have not only facilitated the detection of this condition, but have broadened our views and have made more clear our understanding of its varied pathological manifestations.

The so-called gastric neurosis described by the older text-books are today seen in the different light of structural pathology. Hyperacidity is no longer regarded as simple or functional, but can almost invariably be traced to some gastric lesion or explained as a reflex phenomenon from some remote intra-abdominal organ. Such able workers as Carmen, George, Case, Cole and many others in this country; and Haudeck, Holzknicht

pathognomic or strongly presumptive. By the older clinical methods alone, not more than forty per cent of these cases were correctly diagnosed.

Peptic ulcer may be broadly divided into:

- (a) Gastric and
- (b) Duodenal ulcers.

The gastric ulcers may further be divided into:

1. Acute gastric ulcers.
2. Chronic gastric ulcers.

Shortly after the onset of a gastric ulcer, nature attempts repair by a deposition of inflammatory tissue in and about the ulcer area. If healing is not rapid and complete, there occurs as a result of the pathological processes in and about the site of the ulcer, a definite anatomical defect in the gastric wall. As a result of this defect in the gastric wall, a definite deformity is produced in the gastric barium shadow. The de-

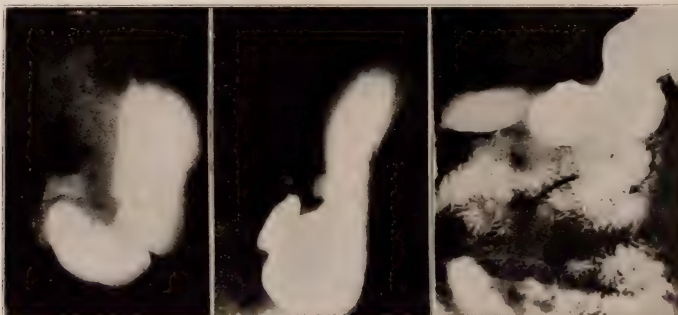


Figure 1.  
Haudeck's niche on lesser curvature incisura opposite.

Figure 2.  
Chronic penetration on lesser curvature. Note pouch filled.

Figure 3.  
Chronic induration on lesser curvature. Note incisura opposite.

and Rieder, abroad, have enriched the literature, each adding something to the roentgen diagnosis of peptic ulcer.

While cases presenting clinical symptoms and positive roentgen findings may be recognized with ease, it is only by careful clinical and roentgenological, analytical study, embracing the subject broadly, that conclusions approaching a correct diagnosis can be reached in those border-line cases which still are in a maze of complexity. Ninety per cent of peptic ulcers give a distinct roentgenological indication of disease, either

degree of deformity and the ease and accuracy with which a positive diagnosis is made, depend directly upon the character and location of the ulcer. Seventy-five to eighty per cent. of these chronic ulcers appear on the lesser curvature of the stomach and are best shown in the antero-posterior view, with the patient either standing or prone. As twenty to twenty-five per cent. occur on the posterior wall of the stomach, these are shown to better advantage with the patient in the lateral position. About fifteen per cent. of all cases of gastric ulcer have a duodenal ulcer also, hence in all cases the examiner should make a careful study of the duodenum for possible ulcer.

\*Presented before the Illinois Section of the Clinical Congress, American College of Surgeons, at Peoria, Illinois, December 16, 17 and 18, 1920.



The roentgenological appearances of chronic gastric ulcer divide themselves into the five following types:

1. Barium seen in the crater of the ulcer or the Haudeck's niche type.

This is a chronic penetrating ulcer, the cavity of which lies entirely in the wall of the stomach. It usually occurs on the lesser curvature and above the incisura angularis, or it may occur on the posterior wall near the lesser curvature. It varies in size from one to three c. m. It may or may not have an incisura, but usually does not. Only when the ulcer is seen in profile can its crater be shown, hence the importance of all

shows barium actually outside of the gastric wall, confined to a sack or pouch which has formed as the result of the extension of the ulcerated process into the surrounding tissue. The walls of this cavity are made up of connective tissue. Usually there can be seen an isthmus connecting the pouch with the stomach. Frequently the pouch will contain a gas bubble along with the bismuth. This pouch varies in size from one to five c. m. and is usually best shown in the antero-posterior position. Organic hour-glass deformity frequently accompanies this accessory cavity. If the stomach is acutely flexed, a partially filled duodenum may be mistaken as an accessory cavity and care should

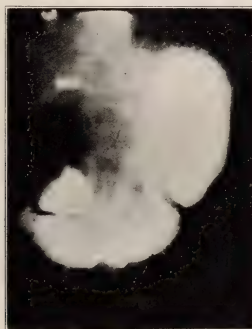


Figure 4.  
Hour-glass deformity.



Figure 5.  
Dilated stomach plus Chr. retention and prepyloric deformity.

positions during examination. An ulcer with a niche three c. m. or more in diameter is likely to prove cancerous.

A small collection of barium in the bowel adjacent to the gastric outline along the lesser curvature may imitate a niche, but manipulation under the fluoroscope or serial plates will readily show the difference. A bulge between two peristaltic waves close together on the lesser curvature often looks like a niche and conversely a true niche may be mistaken for this bulge. However, as the waves progress the bulge moves toward the pylorus while the niche is stationary. The niche accompanies the gastric wall in its movements both on palpation and respiration and fills and empties directly with the stomach.

2. The passage of barium through the gastric wall due to a chronic perforation.

This is a later stage of the simple ulcer and

be taken to exclude this possibility.

3. A defect in the gastric shadow due to an area of induration in the gastric wall.

Very often the only thing that can be demonstrated is the local area of induration around the ulcer. This induration produces a local rigidity in the stomach wall. It is usually seen on the lesser curvature and varies from two to five c. m. in diameter. Over this area of rigidity there is no evidence of peristaltic waves. Serial plates are important to demonstrate this or repeated exposures on the same plate one-fourth of an inch apart, will show a blurred outline of the stomach wall, except over this area of induration, which will remain absolutely stationary. This deformity is usually seen on the lesser curvature and may or may not have an incisura accompanying.

4. Hour-glass deformity of chronic ulcer.

Again very often the only thing that can be

demonstrated is the permanent hour-glass deformity. This is an indentation on the lesser curvature of the gastric wall opposite the ulcer. This deformity is the result of irritation of the ulcer, which causes a spastic contraction of the circular-muscular fibers in the plane of the ulcer. Later there is actual infiltration in the muscular fibers, making the contraction rigid. The most common site is in the vertical portion of the stomach. This must be differentiated from hour-glass deformity of new-growth which presents a funnel-like form, the sulcus being irregular, more broad, while that of ulcer is sacculated, bandlike and smooth in outline. The connecting isthmus in new-growth is more in the center, producing an annular deformity. While the isthmus in ulcer is eccentric and usually a part of the lesser curvature.

#### 5. Pyloric obstruction.

The pyloric obstruction caused by chronic ulcer



Figure 6.  
Note simple incisure in antrum persisting after belladonna.



Figure 7.  
Note prepyloric spasm persisting after belladonna.

or benign cicatrix has its own characteristic pictures, but these are relatively infrequent ulcers. Because this ulcer is of long standing and situated at the pyloric orifice, it causes a greater or lesser degree of obstruction and consequently there is a gastric residue varying from twelve to twenty-four hours and an associated dilatation and hypertrophy of the stomach. This dilatation is frequently noted in the antrum and is known as the prognathous dilatation, which is characteristic of pyloric obstruction. Violent peristaltic waves suggest ulcer. Obstruction from new-

growth is of short duration and is associated with a small stomach. It has its characteristic annular deformity and is an ingrowth into the gastric lumen. Careful study of the pyloric region in different positions will usually show the characteristic deformity of cancer.

#### ACUTE GASTRIC ULCERS

These are the recent mucous erosions and slit like ulcers. Inasmuch as they are of such recent origin that they have not had time to produce any deforming induration in the stomach wall, their presence is suspected by certain indirect or presumptive evidence, particularly spastic phenomena. At other times we are obliged to rely for diagnosis upon more remote phenomena, such as alterations of motility, tonus, and peristalsis. All of these can be materially affected by spasm. Still further we must recognize spastic deformity produced reflexly by extrinsic conditions remote from the deformed organ. Such deformity may simulate the distortion produced either directly or indirectly by an intrinsic lesion. Thus we have two types of gastric spasm; namely, an irritant acting through a reflex arc, in one instance the terminus of the arc lies within the stomach, and in the other, within different organs. One is often a help to diagnosis, the other often a hindrance. We speak of these spasms as intrinsic and extrinsic. All divisions of the digestive tube are subject to spasm and it is so frequently met with that it must be kept constantly in mind, and especially so since the stomach is the playground for reflex activity for the whole gastrointestinal tract.

Spasm of the stomach arising from an intrinsic lesion is usually produced by ulcer, seldom by cancer. Three forms of spasm produced by acute gastric ulcer may be recognized.

1. The incisure and hour-glass stomach.
2. Diffuse gastric distortion.
3. Spasm of the pyloric sphincter.

The simple incisure.

This may occur in any portion of the stomach and is an indentation of the greater curvature opposite the ulcer. It is most commonly seen in the vertical portion of the stomach. It may be so deep as almost to bisect the stomach and produce an hour-glass deformity, or so shallow as merely to dimple the curvature. When noted in the pyloric region it is usually small and should be studied carefully. Each of two ulcers may

have its separate incisura. True incisura must be differentiated from:

1. The normal incisura, angularis and incisura cardiaca.

2. The indentation of the greater curvature of the stomach at the left costal arch. This is usually broad and shallow, and deep palpation backwards will cause it to disappear.

3. The deformity resulting from adhesive bands, which is usually post-operative.

4. Spasmodic incisura or hour-glass deformity arising from causes outside the stomach. This incisura is often associated with duodenal ulcer, gall bladder, or appendix disease. In fact it may be caused by many intra-abdominal diseases. It frequently has the appearance and position of true incisura. A true incisura, however, must have the following characteristics:

It must be constant and stationary; it must be

found at operation by the surgeon, except in those more advanced cases of hour-glass associated with chronic ulcer where actual infiltration has taken place in the circular-muscular fibres.

2. Diffuse spasm.

This usually affects a considerable portion of the pyloric segment, whether the ulcer be situated in this portion of the stomach or higher up in the stomach. This diffuse spasm may be the only roentgen sign of ulcer. Since similar spasms may be set up by conditions outside the stomach, these must be excluded if possible by giving an anti-spasmodic and re-examining.

3. Spasm of the pyloric sphincter.

Spasm of the pyloric sphincter causing a six-hour gastric retention may be the result of a gastric ulcer situated in any portion of the stomach, but as a general rule the nearer the lesion lies to the pylorus, the more pronounced the



Figure 9.  
Simple duodenal ulcer.



Figure 10.  
Induration on superior  
border of duodenum.

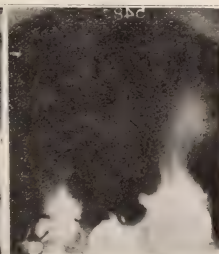


Figure 8.  
Note ulcer on lesser  
curvature. Also ulcer in  
duodenum.

present when the stomach hangs in its normal position; it must survive manipulation and must persist after the administration of atropin or belladonna to the full physiological effect.

There are two exceptions to the above:

- (a) Occasionally a duodenal ulcer may reflexly produce an hour-glass deformity in the stomach which resists atropin.

- (b) A small early carcinoma of the stomach may produce such a deformity and also resist the relaxing effect of atropin.

A thorough examination of the duodenum will either approve or disprove the presence of an ulcer there. It must be remembered that while the spasm of permanent hour-glass will resist the relaxing effect of atropin, it will disappear under general anesthesia and therefore it will not be

spasm of the sphincter. This sign is usually associated with other indirect evidence.

These spastic phenomena may be produced reflexly by any lesion throughout the gastro-intestinal tract, by various drugs and neuroses. Other probable causes which have been noted include pancreatic disease, tabes, abdominal angina, renal and ureteral calculi, and various poisons including uremia, lead and nicotine. Exclusion of extrinsic spasm by administering atropin to its full physiological effect and re-examining is very important. An incisura, hour-glass, or diffuse gastric spasm which is not relaxed by this drug usually means a lesion in the stomach, and more often an ulcer. If a six-hour retention is included in the complex, it is strongly corroborated. Acute anti-peristalsis is generally indicative of

severe pathology. By excluding duodenal ulcer and gastric cancer and by correlating the evidence of gastric ulcer with the clinical, roentgenological and laboratory findings, the diagnosis of these acute gastric ulcers can often be made more specific.

#### DUODENAL ULCER

The first part of the normal duodenum or the cap is visualized as a smooth, rounded, triangular shadow. Its relation to the stomach, gall bladder, and liver varies with the type and position of the patient and the size and shape of the stomach and liver. Seventy-five per cent of all duodenal ulcers occur in the first portion or the cap. A constant filling defect in the duodenal cap means a pathological condition. This may be due to ulcer, adhesions due to cholecystitis, or both, or an anatomical variation such as pressure from adjacent organs. Spasm may produce extensive changes in the shape of the cap, but this is usually reflex from a lesion of the gall bladder or appendix. While commonly single, there may be a companion or kissing ulcer on the opposite wall, or there may be multiple ulcers.

With proper technique an ulcer which is more than a simple mucous erosion should be demonstrated on the roentgen plate. The demonstration of a normal cap rules out chronic indurated or surgical ulcer. There is one type of duodenal ulcer which is easily overlooked and which seems to have a different character from the classical ulcer. (Wm. Mayo Annals of Surgery, 1913.) These ulcers show a broad punched out callus defect with extensive induration, but merely a pin point defect on the mucosal surface, with some mucous membrane heaped about them.

The roentgen appearance of chronic duodenal ulcer oftentimes seems exaggerated compared with the operative findings. First, because the duodenal wall is thin, its mucous membrane is smooth and granular compared with that of the stomach, and consequently the deforming effects of ulcer callus, cicatrix, periduodenitis, spastic incisura, or spasm, are more pronounced. And second, the roentgen plate shows the duodenum full and distended, while at operation it is seen collapsed.

Adhesions from a pathological gall bladder may deform the duodenum and simulate an ulcer. The differentiation is oftentimes difficult, but usually it can be made. Where one finds a com-

bination of ulcer of the duodenum and adhesions, one cannot always say whether the deformity in the duodenum is due to ulcer or adhesions or due to both. In such a case it is sufficient to pass an opinion that a surgical lesion exists. In simple adhesions no matter how extensive, the deformity of the duodenum is greater at the beginning of the examination and gradually lessens as the stomach empties. Effort should be made to carry out the technique over a period of an hour at least, using all positions, but one should not change from one position to the other without an effort being made in any one position for a reasonable length of time.

In the obstructive types of duodenal ulcer where the duodenum is obliterated to such an extent that it cannot be visualized, we have to rely upon indirect signs for our diagnosis, and these are, first, gastric hyper-peristalsis (meaning three or more waves running along the stomach at one time), second, gastric retention from the six hour barium meal. The combination of hyper-peristalsis and gastric retention and a normal stomach outline is diagnostic of duodenal ulcer with obstruction.

#### THE DIAGNOSIS AND TREATMENT OF ECZEMA.\*

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To attempt to even briefly discuss a major portion of the facts concerned in the diagnosis and treatment of eczema would be too Herculean a task for such a paper as this. It will be my endeavor to eliminate all theoretical and controversial points and emphasize only what is of proven worth.

The characteristic feature of acute eczema is a tiny vesicle which is pin-head sized, acuminate, transparent and fragile. These vesicles are closely grouped on a slightly swollen, erythematous base. They soon rupture spontaneously and discharge a clear serous fluid which stiffens linen. This discharge dries and forms yellowish crusts. Upon removing the crusts from a patch of acute eczema one finds it dotted with many tiny perforations which mark the sites of vesicles. These

\*Read before the Aux Plaines Branch, Chicago Medical Society, February 24, 1922.



little openings are canals leading down into the epidermis whose diagnostic importance was early emphasized by the French dermatologist, Devergie. Eczematous patches are poorly defined and merge gradually into the surrounding skin. They do not increase in size by excentric growth as is the case in psoriasis and ringworm but do so by the agglomeration of new elements about the original ones. Eczema is polymorphous as a rule and may at a given moment present vesicles, papules, denuded weeping areas, pustules, crusts and scales. One or other of these lesions predominates and thus an eczema may be vesiculo-pustular, papular, erythematous-squamous, etc. Eczema is also characterized by the fact that its lesions appear in crops which may vary greatly as to their intensity and duration.

As it persists this disorder loses its original appearance and the vesicle is not of such diagnostic importance. The lesions are then bluish-red and they begin to exhibit scaling and thickening of the affected skin. When the skin is extremely thickened as on the palms, fissuring appears. Chronic eczema tends to be circumscribed and limited as on the face or hands. Itching is an important sign in eczema at all times.

The differential diagnosis of this disorder is not fraught with difficulty as a rule. An error would not lead to any disastrous consequences in miliaria, herpes simplex or urticaria. On the other hand it would be regrettable when dealing with such parasitic diseases as scabies, the several forms of pediculosis, the various kinds of ringworm and favus. Impetigo contagiosa on account of its tendency to spread should not be called eczema. Erysipelas must not be confounded with an acute eczema. Certain of the commoner skin diseases as psoriasis, lichen ruber planus, coccogenous sycosis, seborrheic dermatitis; others as herpes zoster, lupus erythematoses and pityriasis rosea must also be differentiated from eczema. Cancer and syphilis may be simulated by eczema, which may also resemble some of the rarer skin diseases; among them, dermatitis herpetiformis, chronic pemphigus, mycosis fungoides, Hebra's pityriasis rubra and pityriasis rubra pilaris. These last named are of extreme importance in this connection either because of incurability, a tendency to recurrence or an inexorable march to exitus lethalis.

Miliaria rubra or "prickly heat" as the laity

term it, is distinguished from eczema by its discrete, superficial glistening vesicles which do not rupture spontaneously but tend to dry up after a brief duration. This disorder occurs in those who perspire freely.

Herpes simplex is frequent about the mouth in connection with such febrile diseases as pneumonia. One or more reddish plaques studded with minute vesicles which quickly desiccate, constitutes the picture.

Ordinary urticaria presents lesions known as wheals which come and go very quickly and are accompanied by intense itching.

Scabies is due to a characteristic parasite, the acarus. The female of this species, in accordance with Kipling's saying, is more deadly than the male since it burrows under the skin and forms galleries. These are visible to the naked eye as tiny, grayish sinuous lines which do not correspond with the normal folds of the skin. The acarus attacks where the integument is thin as between the fingers, along the flexor surfaces of the wrists, about the shaft of the penis and under the female breasts. Intense nocturnal itching is an extremely important symptom and a history of contagion is usually obtained.

The three varieties of pediculosis are characterized by their respective parasites. The crab-louse or phthirus pubis and its ova are easily seen attached to the pubic hairs. The head-louse is more elusive but its nits are readily discovered firmly glued to the hairs about the occiput. The body-louse frequents the seams of its host's underwear, especially about the neck, shoulders, and waist-line. Parallel scratch marks over the scalpulae in an old person of uncleanly habits speak strongly for pediculosis corporis.

The common variety of ringworm of the scalp produces scaling bald patches in which broken-off and easily epilated hairs abound. Such hairs are gray due to a coating of ringworm spores. This is almost always a disease of childhood. Microscopic examination of a diseased hair will reveal the causative fungus. Eczema of the scalp does not cause baldness or breaking off of the hairs. Ringworm of the beard produces large nodular lesions irregularly scattered about the face and neck. The hairs are readily removed from these lumpy swellings. When boiled in 40 per cent. KOH and examined with the high-power lens the fungus is readily seen. This same meth-

od of examination is applicable to any form of ringworm. *Eczema marginatum* is not an eczema but is due to an organism almost identical with the large-spored ringworm. It affects by choice the genito-crural and adjacent regions and appears as one or more circular or polycyclic, reddish patches with well-defined, slightly inflammatory borders which may exhibit tiny vesicles and pustules. Scrapings from this border will reveal the fungus. Ordinary ringworm of the glabrous skin will produce similar lesions which also spread peripherally while clearing centrally. Ringworm of the hands and feet includes a large number of the cases formerly called dysidrosis. Its acute variety resembles a vesiculo-pustular eczema. The chronic forms are either intertriginous and found most often between the toes or else they are hyperkeratotic and involve the palms and soles. In all three forms, vesicles should be sought for, their roofs cut off, inverted on a glass slide, boiled in 40 percent KOH and examined for the fungus.

Favus attacks the scalp, causing permanent baldness plus atrophic scarring. Its characteristic lesion is a cup-shaped, sulphur-colored crust called a scutulum which contains the responsible parasite, the *Achorion* of Schoenlein. It is looked for as described under ringworm.

Impetigo contagiosa is more scattered than eczema and its lesions are smaller. Its greenish crusts which appear to be stuck on the skin are quite characteristic. A history of contagion is frequently obtained.

Erysipelas is attended by more marked symptoms than eczema. An erysipelatous patch is more sharply defined, more shiny, more swollen and more tender than an acute eczema. Bullae are frequent in erysipelas but rare in eczema.

Psoriasis is diagnosed from eczema by its dryness at all times, its predilection for the extensor surfaces of the elbows and knees and over the sacrum, its silvery imbricated scales on gently removing which, tiny bleeding points are seen.

Lichen ruber planus is readily diagnosed from a papular eczema if one keeps in mind its characteristic papules. They are flat-topped, angular, violaceous, polygonal often imbricated and sharply defined. Lichen planus heals with pigment formation. When it is present look for associated lesions in the mouth and on the tongue.

Coccogenous sycosis is limited to the beard and each pustule is pierced by a hair.

Acne vulgaris presents as a rule a mixture of pustules, comedones, papules and scars. It affects the face and median line of the body especially, both in front and behind, where the sebaceous glands are numerous and well developed.

Seborrheic dermatitis is distinguished from eczema by its oily secretion, oily crusts, yellowish color, tendency to follow the median line of the body and by its origin in the scalp. It is also circinate in outline, sharply defined and tends to spread peripherally.

Herpes zoster is readily diagnosed from a vesicular eczema when one thinks of the severe pain, both prodromal and accompanying the eruption, its unilateral distribution along the course of a nerve or nerves, the deeper character of its lesions and the adjacent lymphadenopathy.

Lupus erythematosus differs from a chronic squamous eczema by reason of its greater chronicity, its sharp definition, with an elevated reddish border and atrophic center. It possesses moreover adherent tacklike scales which extend down into the follicles. Sometimes it covers part of the nose and cheeks, affecting a butterfly form which is quite characteristic. On the scalp it causes permanent baldness with atrophic scarring.

Eczema may be confused with papular syphilides which differ in being more discrete, more infiltrated, more sharply defined, less inflammatory and often associated with luetic lesions elsewhere.

In the tertiary stage syphilis is often unilateral, shows an elevated circinate and well defined border in which individual nodules can be seen. Syphilis does not involve the entire palm as eczema does, neither does it spread onto the dorsum of the hand, a thing which eczema is prone to do. The Wassermann reaction is a valuable aid in such cases but unfortunately it is not always positive in late syphilis.

In dermatitis herpetiformis the lesions are herpetiform as the name implies. They may affect a circinate arrangement. Bullae are frequent. Vesicles when present do not possess the same attributes as do those of eczema.

Chronic pemphigus exhibits bullae which arise from apparently normal skin. Similar lesions are present in the mouth.

The prefungoid stage of mycosis fungoides may be eczematoid but its lesions are usually

more sharply defined, more Arabesque in contour and more pruriginous. An apparently abnormal eczema with these characters should not be too lightly dismissed as a banal affair.

Pityriasis rubra of Hebra differs from a scaling eczema in being universal, presenting glandular enlargements, an atrophic skin, fine desquamation and in its relentless course to a fatal termination. It resembles chronic pemphigus and mycosis fungoides in this last respect.

Pityriasis rubra pilaris is characterized by horny follicular papules, most common on the dorsal aspects of the second phalanges. It is more or less universal and dry at all times.

*Treatment of eczema. Internal:* Internally, we possess no one sovereign remedy just as there is no single agent which when applied externally will exert a curative effect in all cases of eczema. Since itching is the most marked subjective symptom its alleviation is urgent. Acid acetyl salicylic is useful for this purpose. Opium and its derivatives should be avoided as they tend to increase pruritus.

The employment of arsenic in eczema has been a much mooted question. Suffice it to say that it should not be given in acute cases or when indigestion is present but reserved for persistent torpid cases in which it may do good work. Its tendency to produce keratoses which may eventually become malignant, when given too long should not be forgotten.

Emptying of the intestinal tract is of value especially in acute outbreaks and when the disorder is extensive. The salines, calomel, castor oil and cascara sagrada are all of value for this purpose. The rhubarb and soda mixture is useful in dram doses, three or four times daily. Elimination can also be promoted by drinking large amounts of pure water and by the use of diuretics such as potassium acetate.

Any associated disorder should be searched for and treated. Foci of infection, especially tonsils and teeth, should receive the proper attention.

Dietetic measures are also of value perhaps most often in infantile eczema. In this connection the newer tests for protein and carbohydrate sensitization seem to offer aid but their exact status has not been determined. Therapy by means of the glands of internal secretion while now and then of value is as yet a more or less empirical proposition.

*External treatment of eczema.* First, remove all sources of external irritation and put the part at rest insofar as this is feasible. Use cardboard splints about the elbows in children to prevent scratching the face. In generalized cases rest in bed is indicated. Begin with mild soothing treatment which will have for its object the lessening of secretion and the protection of the exposed derma. Use only remedies with which you are familiar. In a moist eczema the following creamy combination is useful: Bismuth subnitrate 1 dram, Zinc oxide 2 drams, Olive oil 4 ounces and Lime water q. s. ad 8 ounces. A modified Carron oil composed of equal parts of olive oil and lime water is well tolerated. Equal parts of lanolin and olive oil has been recommended. Some good therapists recommend aqueous solutions as a 2 per cent. resorcin solution or one part of Burrow's solution in from 5 to 20 parts of distilled water. An erythematous or papular eczema can be bathed in a 1 or 2 per cent. alcoholic solution of salicylic acid and afterwards covered with equal parts of talcum and starch. Alcohol should not be applied to an acute vesicular eczema. Patches of acute eczema are best cleansed with olive oil or high grade vaseline. Applications are changed daily as a rule. In a dry eczema the salicylic acid and powder treatment can be renewed three or four times a day. Calamine lotion is excellent in acute eczema. When the case is not too extensive phenol is a splendid anti-pruritic in a one-fourth to one per cent. suspension in glycerin and zinc oxide, each 1 dram and lime water add 4 ounces.

When an eczema has become less moist and inflammatory one can use more energetic measures. Drugs applied in salves and pastes are in order since lotions are of less value at this time. One of the best is crude coal-tar from which the excess of alkalies has been removed by washing. Dind of Lausanne, Brocq of Paris and Charles J. White of Boston have all done much to increase our knowledge of this agent. Brocq recommends the following formula: Crude coal-tar two and one-half drams, lime water 5 drams, Lanolin 1 ounce and Vaseline one and one-half ounces. This is painted on, allowed to dry and then covered with talcum powder. It can be repeated every two to four days. Sometimes the coal-tar is applied undiluted. A two to ten per cent. solution of silver nitrate is valuable in an



eczema at this stage. It should be used every three or four days, bearing in mind its tendency to produce argyria when used to excess. Such a case was reported by me in the *Journal* for April 9, 1921. Naftalan is an excellent remedy in both acute and subacute eczema. When employed, as 25 to 50 per cent. mixture in equal parts of starch and zinc oxide it is particularly useful in infantile eczema. Oil of cade is one of the best tarry preparations. The tars are valuable on account of their stimulating and antipruritic properties. When using them always commence with a low percentage as one or two percent and gradually increase as the case warrants. In pustular eczemas either ammoniated mercury or the yellow oxide of mercury are efficient.

In eczema of the scalp it is not necessary to cut the hair as a rule. Pastes are too thick and the desired treatment is best applied in lotions and ointments. All crusts should be carefully removed before any application is made. Oil of cade and resorcin, used as already described are valuable. In the presence of suppuration mercurial salts are called for. When seborrhea exists precipitated sulphur, 5 to 10 per cent., is extremely useful.

When the face is involved a mask should be employed, particularly in infantile eczema. Crude coal-tar naftalan and the bismuth cream as mentioned under acute eczema are all efficient.

In eczema about the genitals be on your guard against diabetes. When irritating discharges are present as in gonorrhea and leucorrhea scrupulous cleanliness and attention to the associated disorder is of course imperative. The bismuth cream is of service. Diachylon ointment is valuable in chronic scrotal eczema.

Silver nitrate solution (5 per cent.) is useful about the anus, particularly when fissures are present. The tars are also indicated. Hemorrhoids should be looked for and treated.

*Other methods of treatment.* X-ray and radium therapy are both useful in thickened discrete patches of chronic eczema. They are especially valuable about the anus and genitalia. Cases which are not so far advanced may respond to the high frequency current.

In recurrent eczema the use of autogenous serum has been suggested but it seems only fair to say that it has not fulfilled expectations.

#### CONCLUSIONS.

1. In a given case of eczema always be certain

that some parasite as the acarus, a pediculus or ringworm fungus is not present.

2. In stubborn cases search for foci of infection.

3. In an eczema limited to one palm think of syphilis.

4. In a chronic progressive eczematoid condition affecting one breast watch out for Paget's disease.

5. As regards treatment applied externally, begin mildly and finish strongly.

6. Treat each case individually and not according to any standardized scheme.

7. Eczema should be considered as a cutaneous reaction which may be due to a number of factors rather than as a disease *per se*.

† West Madison St.

#### THE VITAMINES.\*

"WHEREFORE BY THEIR FRUITS YE SHALL KNOW THEM."—BIBLE.

C. B. JOHNSON, M. D.

CHAMPAIGN, ILL.

Notwithstanding the immense harvest of scientific achievement that characterized the nineteenth century, up to a few years ago the most advanced physiological chemist was firm in the conviction that for maintaining an individual up to the normal standard of nutrition, all that was needed was the intake of a full supply of certain proximate principles, namely, proteins, hydrocarbons, carbohydrates and several minerals as typified in lean meat, fat pork, sugar and starch and certain salts.

But scarce had the twentieth century rounded out its first decade when Casimir Funk, a Polish chemist, made the discovery that in addition to the four classic groups of proximate principles named above, certain other factors were necessary in the work of keeping the nutrition standard up to normal. Indeed, so essential were these deemed that their discoverer bestowed upon them the name vitamins, the first syllable denoting life and the remaining two the chemical process involved. As all know that while the vitamins are being freely discussed in medical journals, the newspapers and popular magazines are devoting no little space to their consideration and finally the patent medicine firms and proprietary

\*Read at 72d annual meeting of the Illinois State Medical Society at Chicago, May 16, 1922.



houses are advertising and boosting them to the limit. But notwithstanding the notoriety into which they have been brought, no one knows what they are. Indeed, so absolute is the want of knowledge in this particular, that of the real innate nature of a vitamine the man on the street knows just as much as the most advanced scientist.

However, in this last particular the vitamins have distinguished company in another mysterious agent, namely, electricity. For common and familiar as is electricity in its everyday uses, yet of its innate nature the most up-to-date physicist knows absolutely nothing.

Fortunately from the practical side a vitamine, like electricity, is recognized by its effects, for of both of these illusive agents it can be said in the language of Holy Writ, Wherefore by their fruits ye shall know them. Yes by their fruit, in other words by their effects, scientists have been enabled to learn much of both electricity and the vitamins, mysterious and elusive though these agents are.

How has this knowledge of the vitamins been obtained? For the most part by their effects on laboratory animals and of these, fortunately, rats have proved to be especially serviceable.

These experiments have demonstrated the existence of three distinct vitamins as follows: First, a substance found in certain fats and hence called fat-soluble or letter A vitamine. Next, a substance soluble in water and in consequence named water-soluble or letter B vitamine. Finally, a third substance that has the power to cure scurvy and hence known as anti-scorbutic or letter C vitamine.

Professor Hopkins of Yale University had a most interesting laboratory experience with some rats which were separated into two lots, and known respectively as Lot 1 and Lot 2. To Lot 1 he fed proteins in the form of lean meat, fat in the form of hog's lard, starch and sugar, mineral salts and plenty of water. To lot 2 he fed the same articles plus a minute quantity of milk. The results were most interesting and enlightening. Lot 1 soon began to lose weight and decline in every way while lot 2 thrived in every particular.

On the eighteenth day the diet was reversed and in due time lot 1 began to look up physically

and later reached normalcy. Meanwhile lot 2 went to the bad precisely as had lot one on the same diet.

In the food make up of the diet upon which the rats went to the bad there were the four classic proximate principles, namely, proteins, hydrocarbons, carbohydrates, mineral salts and water in plenty, yet in each instance the rats lost ground to almost the point of starvation. Strange to say the addition of an almost infinitesimal quantity of milk, the two five-hundredths of a pint per day, caused the starved rats to begin promptly to pick up.

How can these results be explained? While the amount of milk was almost infinitesimally small, yet it was "whole" milk and hence contained butter-fat which strange to say had the almost magic power to transform what was a pronounced case of food failure into an equally pronounced case of food-success. So much for Professor Hopkins' experience with butter-fat, a typical fat-soluble or letter A vitamine.

Casimir Funk fed one lot of guinea pigs on "polished" boiled rice and another lot on boiled rice which had not been polished, that is to say with part of the husk left on, and noted results. The first lot lost weight, lost energy and went down generally. The second lot thrived normally.

Why the difference? The first lot lacked water-soluble B by reason of having been fed on polished rice and hence went "to the bad" physically. The second lot were fed on rice husks which contained water-soluble or vitamine B and hence thrive.

Today scientists can look back and realize that all unconsciously the following experiment was performed on a large scale during the Russo-Japanese War. In a certain prison camp a number of Japanese were confined and the food for prisoners and Russian guards alike was boiled rice. The Japanese asked for and obtained the "soup" or water in which the rice had been boiled and thus they ate.

After a time the Russians developed polyneuritis, or beriberi, and meantime their prisoners who had added to their food the despised "soup" or rice water went Scot-free.

Speaking figuratively and paraphrasing a Biblical illustration it may be said that the stone which the Russians rejected became physically

the chief corner-stone in the health of their Japanese prisoners.

While the detestable rat, of which the world longs to be rid, is available for very many laboratory experiments it unfortunately is not susceptible to scurvy, but the guinea pig, a most attractive little animal, can be infected with that disease.

When confined and fed on dry foods exclusively and in which certain factors are absent, scurvy develops in guinea pigs. Happily to say, a little orange juice added to the food and the disease disappears promptly.

Numerous and varied experiments conducted on guinea pigs in the physiological laboratory have shown that a number of fruit juices other than those of the orange are curative of scurvy, as are likewise cabbage, lettuce, onions, watercress and indeed most fresh vegetables.

Potatoes are thought to have relatively small anti-scorbutic properties, yet to them is probably due the credit of preventing the appearance of many cases of scurvy during the long winters in the Scandinavian countries when that vegetable is made use of in large amount.

Scarcely need it be said that the curative power of the articles named above is due to the anti-scorbutic, or vitamin C which all contain in greater or less amount.

Scurvy is a disease that has long been known as liable to occur when and where fresh and acidulated foods were excluded from the diet. A thousand years ago it followed the crusaders as a veritable scourge. During our War of the Revolution our little army developed no less than 30,000 cases, 400 of which proved fatal.

Many years ago, namely in 1867, while following the older Dr. Bevan, father of our well known surgeon of that name, I received a most excellent lesson in the diagnosis of scurvy. Among the just-arrived patients was an Irishman who had on his person what seemed to be a number of bruises. Dr. Bevan questioned the patient very closely under the impression that he had been in a regular Irish meleé where, as at the Donnybrook Fair, it was see a head and hit it.

But to all of Dr. Bevan's insinuations and veiled accusations the patient registered an emphatic NO. Taking us aside Dr. Bevan said "this man is very evidently telling us what is not true. He has certainly been in an all-around

fight and those bruises are silent witnesses against him."

A few days later Dr. Bevan held another clinical lecture at the Cook County Hospital and the first patient exhibited was our Irish friend who was still wearing his "bruises." After pointing these out carefully Dr. Bevan took us again aside and said, "Gentlemen, our patient, the other day told us the truth when he denied having been in a fight for the fact is those marks on his body are not bruises at all but the results of scurvy from which disease he is a sufferer. I was clearly wrong when I pronounced those marks traumatic and I make free to acknowledge my mistake."

One of our most eminent surgeons once said one physician's mistake if rightly interpreted is more instructive than twenty successes and I can but believe that Dr. Bevan's mistake so candidly acknowledged in the diagnosis of scurvy made a lasting and really educational impression on all of us who were privy to it.

During the World War a body of British troops and their Indian allies were for four months held in siege by the Turks at a place named Kut. The British soldiers lived on biscuit made of white flour, tinned meats and horse flesh. The Indian soldiers refused to eat the fresh horse flesh but made use of barley flour instead. Note the results. The British developed a number of cases of polyneuritis or beriberi and the Indians became afflicted with scurvy. Why this twofold sequence? The fresh horse flesh which the British soldiers ate contained a due amount of anti-scorbutic, or water-soluble B, hence they escaped scurvy while their Indian soldiers fell victims to that disease.

On the other hand the white flour from which the British made their biscuit was lacking in anti-neuritic, or water-soluble B and in consequence numbers of them developed polyneuritis or beriberi while their Indian allies escaped because their barley flour contained rich anti-neuritic vitamin.

The above was as far as possible from being a pre-arranged nutrition experiment, yet no carefully-planned test by the most learned scientist could have proved more enlightening. One report has it that the British authorities, learning of the plight their soldiers were in at Kut, flew a number of airplanes over that place and dropped from them numerous packages of yeast

so these could be picked up by their soldiers who had meantime been apprised of the powerful anti-neuritic properties of that article.

The result was most happy in the fact that no more cases of beriberi developed.

It has been, seemingly, proved that the absence of fat-soluble, or letter A vitamine will develop rickets. Impressed with this belief Dr. Mellanby, a noted scientist, fed puppies wheat bread, separated milk, linseed oil, yeast, lemon juice and salt and in a little while they developed rickets. In this food list it will be seen that yeast supplied water soluble B and that the orange juice furnished anti-scorbutic or vitamine C and linseed oil, a fat, but a vegetable fat and hence useless. For no vegetable oil can supply fat-soluble, or letter C vitamine as can butter-fat, beef fat and mutton fat.

In the above experiment let us in imagination substitute infants for the puppies, remove butter-fat or its equivalent from their diet and rickets will follow. As it has been found that a diet rich in butter-fat or one of its equivalents will cure rickets the name anti-rachitic has been bestowed upon fat-soluble or letter A vitamine.

Among articles rich some of them in fat-soluble or letter A vitamine may be named butter, cream, cod liver oil, mutton fat, beef fat, whole milk, cabbage, lettuce and spinach. Vegetable oils are for the most part devoid of vitamine A.

The list of foods containing water-soluble, or letter B vitamine includes eggs and other animal ova, the germs of wheat, corn and certain other grains, the husk of rice, dried peas and yeast most of all.

Articles containing anti-scorbutic or letter C vitamine comprise fresh raw cabbage, lettuce, carrots, tomatoes, onions and fresh vegetables generally, lemon juice and fruit acids generally.

All three vitamines are to a greater or less degree injured by heat, consequently canning and cooking are prone to lessen or destroy their efficiency. Among these agents water-soluble or anti-scorbutic vitamine is most liable to be injured by heat and water-soluble B least of all.

How do the vitamines act? No one seems to know certainly. One observer thinks through stimulation. Another says their action is catalytic, in other words they effect chemical changes by their mere presence and without undergoing material change.

In conclusion it is proper to state that a just

spirit of candor impels me to acknowledge that I have seen fit to gather material for this paper from many sources, some of it from the much criticised secular press. For material that seemed pertinent I have not hesitated to use from what source soever it came.

In this matter I have endeavored to emulate the work of the ever-busy honey-bee that gathers sweets from every flower, humble and despicable though some of these are.

However, it is but simple justice to say that by far the greater part of my material I have gotten from a most excellent work, entitled *Vitamines*, from the pen of Benjamin Harrow, Ph. D., issued a few months since from the press of E. P. Dutton and Company, New York City.

#### THE DERIVATION OF THE WORD HOSPITAL

One of the features of an ancient Roman home were the "hospitalia," or apartments set aside for strangers, or "hospes." Hence, in its original meaning the word "hospital" was applied to places where strangers were received and kindly entertained. The commonly restricted use of the term to designate places where sick strangers were received was an after-development.

The word came to us directly from the French, who got it from the Romans. It is derived, of course, from the same root as "hospitable." The name "Hospitalier" was borne with pride by several semi-religious and semi-military orders, like the Knights of St. John or the Knights of Malta, who made it a business to relieve the poor, the strangers and the sick.

It is worth noting that the first "hospital" for diseased men and animals was established by the Buddhists in Hindustan.

#### MEDICAL WOMEN'S INTERNATIONAL ASSOCIATION

The second meeting of the Medical Women's International Association will be held at Geneva, Switzerland, from the fourth to the seventh of September, 1922. All members and prospective members are urged to be present. Each society of medical women is invited to send one eligible delegate, and an additional delegate for every hundred members.

Interesting reports will be read by medical women from different countries, and the constitution of the organization will probably be revised in accordance with the provisions under which it was adopted.

Clinics in the different European cities may be visited en route. The attractions of travel in Europe are great this year. Practically all countries are accessible and the Passion Play will be on at Oberammergau during the entire summer.



# ILLINOIS MEDICAL JOURNAL

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AUGUST, 1922

## Editorial

### LET US HAVE EQUAL VOTING POWER

Dr. Charles E. Mongan, A. M. A. delegate from Massachusetts at the St. Louis meeting of the A. M. A., raised the question as to the justice of giving the Scientific Sections and the Army, Navy and Public Health Service the right to send representatives to the House of Delegates, thereby conferring on one person dual voting privileges. He filed notice of a proposed change in the constitution covering these points which has to lie over one year.

### U. S. ATTORNEY GENERAL DECLARES SHEPPARD-TOWNER MATERNITY ACT UNCONSTITUTIONAL

Massachusetts, New York, and Rhode Island have rejected the Sheppard-Towner Maternity Act. The State of Massachusetts challenged the constitutionality of the Act because of its State aid features. Under the provisions of the Act the Massachusetts legislature pointed out that Massachusetts and other States paying large sums into the federal fund would be paying out more money in support of the Act than she could regain under her allotment. The matter was

referred to the United States Attorney General, who rendered an opinion declaring the act unconstitutional.

We can imagine extreme post partum pains on the part of several State Health Department managements when they have to repay back into the federal treasury the money already illegally paid into the States that have accepted provisions under the maternity act.

### AS OTHERS SEE US

The following from the *Detroit Journal*, July 3, 1922, is reproduced in order to show the way Lay Journals are awakening to the present tendency in medical affairs:

#### "ANOTHER DANGEROUS PROPOSAL"

An annual physical examination of every man, woman and child in the State of New York was advocated by a State Commissioner of Health, addressing a recent meeting of sanitary officers in Saratoga Springs. Report fails to say whether the meeting got very excited over the proposal and it is presumed that the officers assembled did not.

Here is another pat example of a growing tendency of State and local governments to poke their long noses into personal affairs. The rea-



sons for the establishment of an annual physical examination sound plausible enough. Sick people do not always go to doctors and sick people at large spread sickness sometimes, and all that sort of thing.

That sounds reasonable. But reasons for such measures are outbalanced by personal rights and hard practical reasons against this sort of paternalism. Doctors who examine hundreds daily, as a state examiner in these circumstances must, would, in spite of himself, overlook scores of defects and give faulty diagnosis of others. That is inevitable. When a man consults a physician he pays as much for the doctor's interest as he does for a prescription. The attention is personal, intimate and thorough. He is not a human animal to be stamped "Inspected" or held up for impersonal attention. He is a friend of the physician. Wholesale inspection sounds too much like Russia, or an immigration office, for Americans.

Perhaps more important, state inspection of its population would lead inevitably and immediately to the worst feature of paternalism, the abuse of the almost unlimited power placed in the doctor's hands. Not that doctors are prone to abuse power more than other men. Indeed they have a code of ethics that other classes have not. The objection is that the privilege of snooping into other people's affairs cannot be exercised by human beings without abuse.

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#### READ CONGRESSMAN (DOCTOR) VOLK'S SPEECH.

Elsewhere in this issue we publish the latest speech of Congressman Lester D. Volk, M. D., on the narcotic drug situation and the commission government that made it possible.

Dr. Volk in his two historical speeches (made January and July, 1922) has exposed the dangers of commission government in lay life, and of committee government in medical officialdom.

Arbitrary control of rules and regulations and interpretations by appointed officials or committee chairman, arbitrary control of publicity by the same forces, putting over personal or group promotions crush out the honest and competent work and thought of the many individual workers.

Congressman Volk's speech is a truthful and unanswerable argument, and an indictment of

commission bureaucracy, such as has been the narcotic administrations.

The medical profession of this country can thank God for having a medical red-blooded American man in Congress who is not afraid to tell the truth and bring to light the abuses of Prussianism before it completely crushes out self-respect and self-determination in an honored profession, stultifies its ideals and destroys its usefulness, progress and respect in the eyes of the public.

Narcotics, alcohol, maternity, workman's compensation, etc., medical publicity and education, under the control of commission or consul or committee bureaucracy, and we wonder why we have Christian Science, Chiropractors and the endless cults that have taken advantage of the muddling and confusing and maligning of decent medical practice which has been allowed to go on, and even been promoted by some of our medical and lay bureaucrats.

Is the medical profession to survive and progress or is medical science and medical progress to be turned over to the uplifters and panacea-promoters and the non-medical directors of medical destinies in general?

The danger of medical bureaucracy has been repeatedly exposed in this Journal. How much longer must it go on? Read Dr Volk's (Congressman) speeches and think seriously where the medical profession and the public are heading under commission power in government, medical and lay.

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#### THE MEDICAL SOCIETY OF THE MISSOURI VALLEY AT ST. JOSEPH

The thirty-fifth annual meeting of this association will be held in St. Joseph, under the presidency of Dr. Paul E. Gardner, on September 21-22. The Buchanan County Medical Society is preparing for a series of clinics to be held at the various hospitals of St. Joseph on Tuesday and Wednesday, preceding the meeting, September 19-20. St. Joseph has a proverbial reputation for warm-hearted hospitality, and the arrangement committee, under the leadership of Dr. Floyd H. Spencer, announces that the "tang" of his city for entertainment and good fellowship will be fully sustained upon this occasion. The famous hotel Robidoux will be headquarters, and all sessions will be held in the beautiful Crystal Room. The exhibits will be on the same floor.

One of the features of the second day will be a symposium on the "Early Recognition of Cancer,"

participated in by a number of men who have won national distinction in research work and clinical investigation. On Thursday evening at 7:30 o'clock, Dr. C. W. Hopkins, chief surgeon of the C. & N. W. railway, will give an illustrated lecture on "Injuries and Surgery of the Spine," and Dr. N. M. Keith, of the Mayo Clinic, will present a paper on "Hypertension in Cardio-Vascular Disease," illustrated by lantern slides. Following the evening session will be a smoker and other entertainments. Members are urged to bring their ladies who will be entertained while the fellows are attending the sessions.

Reservations of rooms at the Robidoux should be made early to avoid disappointment. The medical profession of adjoining states cordially invited to attend the clinics whether or not they are members of the society.

The preliminary program follows:

"Causes of Duodenal Ulcer," Dr. E. P. Sloan, president Illinois State Medical Society, Bloomington, Ill.

"Toxic Factors in Intestinal Obstruction," Dr. T. G. Orr, Kansas City.

"Convulsions in Children," Dr. S. Grover Burnett, Kansas City, Mo.

"The Phosphatic Index," Dr. J. Henry Dowd, Buffalo, New York.

"Some Phases of the Relation of Dental Focal Infection and Systemic Diseases," (lantern slides), Dr. Russell L. Haden, Kansas City, Mo.

"Renal Function in Prostatic Hypertrophy," Dr. Raymond L. Latchem, Sioux City, Iowa.

Dr. Leigh F. Watson, Chicago, subject to be announced.

"Myoclonic Type of Epidemic Encephalitis," Dr. Lloyd James Thompson, St. Joseph.

Dr. Lynne B. Greene, Kansas City, subject to be announced.

"Cancer: Its Early Recognition," a symposium.

(a) Address, Dr. Fred J. Taussig, St. Louis, Mo., "How Far Can the Cancer Death Rate Be Decreased by Educating the Profession and the Laity?"

(b) "Superficial Cancers," Dr. E. H. Skinner, Kansas City, Mo.

(c) "Gastro-Intestinal Cancers," Dr. John M. Bell, St. Joseph, Mo.

(d) "Cancer of the Breast," Dr. Donald Macrea, Council Bluffs, Iowa.

(e) "Cancer of the Uterus," Dr. Palmer Findley, Omaha, Neb.

Complete program will be issued September 1; if you do not receive a copy notify the secretary, Dr. Charles Wood Fassett, Kansas City, Mo.

### TRI-STATE DISTRICT MEDICAL ASSOCIATION PROGRAM

The physicians of Illinois are most cordially invited to attend the annual assembly of the Tri-State District Medical Association which is to be held at

Peoria, Illinois, October 30th, 31st, November 1st and 2nd.

The entire time of the assembly, outside of a few social features, will be taken up with scientific addresses, essays and diagnostic clinics. The diagnostic clinics are a very important part of the assembly. They will start every morning at 7 o'clock and continue throughout the forenoon. The afternoon and evening sessions will be taken up with literary contributions.

The territory covered by this organization includes the entire states of Illinois, Iowa and Wisconsin and districts of surrounding states. The attendance promises to be very large, therefore, you are requested to make your arrangements for attending the assembly as early as possible.

Through the courtesy of the Illinois State Medical Journal, the entire program will appear in the September number.

The following is a partial list of the tentative program:

Dr. Alfred W. Adson, Mayo Clinic, Rochester, Minnesota.

Dr. William Seaman Bainbridge, New York, N. Y.  
Dr. Walter L. Bierring, Des Moines, Iowa.

Dr. Frank Billings, Prof. of Medicine, Rush Medical College, School of Medicine, Chicago, Illinois.

Dr. Ernest S. Bishop, Clinical Prof. of Medicine, New York Polyclinic Medical School, New York, N. Y.

Dr. Francis G. Blake, Prof. of Medicine, Head of Department of Medicine, Yale University, School of Medicine, New Haven, Conn.

Dr. George V. I. Brown, Milwaukee, Wisconsin.  
Dr. William D. Chapman, Silvis, Illinois.

Dr. Walter W. Chipman, Prof. of Obstetrics & Gynecology, University of McGill, Faculty of Medicine, Montreal, Canada.

Dr. John G. Clark, Prof. of Gynecology, University of Pennsylvania, School of Medicine, Philadelphia, Pa.

Dr. Lewis A. Conner, Prof. of Medicine, Cornell University, School of Medicine, New York, N. Y.

Dr. George W. Crile, Prof. of Surgery, Western Reserve University, School of Medicine, Cleveland, Ohio.

Dr. John B. Deaver, Prof. of Surgery, University of Pennsylvania, School of Medicine, Philadelphia, Pa.

Dr. George Dock, Prof. of Medicine, Washington University, School of Medicine, St. Louis, Mo.

Dr. Charles A. Elsberg, Prof. of Clinical Surgery, University and Bellevue Hospital, Medical College, New York, N. Y.

Dr. Oliver J. Fay, Des Moines, Iowa.

Dr. John M. T. Finney, Prof. of Clinical Surgery, Johns Hopkins University, Medical Department, Baltimore, Md.

Andrew Fullerton, Esquire, Belfast, Ireland.

Dr. John H. Gibbon, Prof. of Surgery and Clinical

cal Surgery, Jefferson Medical College, Philadelphia, Pa.

Dr. William D. Haggard, Prof. of Surgery, Vanderbilt University, School of Medicine, Nashville, Tenn.

Dr. Charles F. Hoover, Prof. of Medicine, Western Reserve University, School of Medicine, Cleveland, Ohio.

Dr. August Frederic Jonas, Prof. of Surgery, University of Nebraska, School of Medicine, Omaha, Nebr.

Dr. Allen B. Kanavel, Prof. of Surgery, Northwestern University, School of Medicine, Chicago, Illinois.

Dr. Einar Key, Riddaregatan 1, Stockholm, Sweden.

Dr. Robert W. Lovett, Prof. of Orthopedic Surgery, Harvard University, School of Medicine, Boston, Mass.

Dr. Charles F. Martin, Prof. of Medicine, McGill University, Faculty of Medicine, Montreal, Canada.

Dr. William J. Mayo, Mayo Clinic, Rochester, Minnesota.

Dr. John Lovett Morse, Prof. Emeritus of Pediatrics, Harvard University, School of Medicine, Boston, Mass.

Dr. Alfred N. Murray, Chicago, Illinois.

Dr. Thomas W. Nuzum, Janesville, Wisconsin.

Dr. Edward H. Ochsner, Chicago, Illinois.

Dr. Joseph M. Patton, Prof. of Clinical Medicine, University of Illinois, School of Medicine, Chicago, Illinois.

Dr. Joseph A. Pettit, Prof. of Surgery, North Pacific College, Portland, Oregon.

Dr. Roswell L. Pettit, Ottawa, Illinois.

Dr. Alexander Primrose, Dean and Prof. Clinical Surgery, University of Toronto, Faculty of Medicine, Toronto, Canada.

Dr. Emmett Rixford, Prof. of Surgery, Leland Stanford Junior University, School of Medicine, San Francisco, California.

Dr. Frank E. Sampson, Creston, Iowa.

Dr. Greenfield Sluder, Prof. of Laryngology and Rhinology, Washington University, School of Medicine, St. Louis, Mo.

Dr. Arthur Steindler, Iowa City, Iowa, Prof. of Orthopedic Surgery, University of Iowa, School of Medicine.

Professor Theodor Tuffier, Paris, France.

Dr. Clarence Van Epps, Iowa City, Iowa.

Dr. Julius Weingart, Des Moines, Iowa.

Dr. Edward M. Williams, Sioux City, Iowa.

Dr. John A. Witherspoon, Prof. of Medicine, Vanderbilt University, Medical Department, Nashville, Tenn.

Dr. John L. Yates, Milwaukee, Wisconsin.

Program Committee.—Dr. Edward Ochsner, Chicago, Ill.; Dr. Walter L. Bierring, Des Moines, Iowa; Dr. George V. I. Brown, Milwaukee, Wis.

Managing-Director.—Dr. William B. Peck, Freeport, Ill.

## Correspondence

### UNIVERSITY OF ILLINOIS NOT TO ENTER (AT PRESENT) THE GENERAL PRACTICE OF MEDICINE; PRESIDENT KINLEY PUTS HIMSELF ON RECORD.

Urbana, Illinois, July 21, 1922.

*To the Editor:*—Some one has kindly sent me a copy of your Journal for July, containing on page 77 certain resolutions. One of these relates to my attitude on the matter of federal aid, and I am glad to know that my position commends itself to the members of your society.

A second resolution, entitled "State Hospital Resolution," is one with the principle of which I am in hearty sympathy, although I feel obliged to say that the case to which that principle is applied in the resolution exists only in somebody's imagination. I suspect that my good friends, the doctors, are trying to draw me out.

While ordinarily I do not permit myself to be drawn out on any matter, yet in this case I am glad to submit. Seriously, I have no idea on what grounds "a goodly portion of the medical profession" believes that I intend to ask the Legislature to transfer the custody of the hospitals now under construction in Chicago, under the joint auspices of the Department of Public Welfare and the University, entirely to the custody of the University. I do know, however, that the idea had not entered my head, and, so far as I know, the intimation in this resolution is the first suggestion of the matter. Any one who says that this is my intention is speaking without knowledge, which he could easily have gotten by writing me.

I have not had and I do not now have any intention of asking the transfer of these hospitals to the University. *What the future may have in store for us, if and when conditions change, is a matter that no one of us can guess.* But I would be among the last of the citizens of Illinois to favor the entrance of the University into the general practice of medicine.

Very truly yours,

DAVID KINLEY, President,

## LOOK OUT FOR IMPOSTOR

Chicago, Ill., July 19, 1922.

*To the Editor:*—On Monday, July 10, I was called upon by one who represented himself to be Dr. Cecil McKee Jack of Cairo, Illinois, and a son of Dr. Cecil M. Jack of Decatur, Illinois, who stated that he had been robbed of his money and transportation to Cairo and asked a loan of fifteen (\$15.00) dollars to enable him to reach his destination, promising to return it by mail the next day. Not hearing from him by the 14th, I wrote Dr. Jack at Decatur and am enclosing a copy of his reply, which shows him to be an impostor. Very truly yours,

31 N. State Stret. DR. OLIVER TYDINGS,

The following is Dr. Jack's letter:

Decatur, Ill., July, 17, 1922.

*Dear Doctor Tydings:* My son is only ten years old, and there is no young man of my connections bearing my name that I know of. I am sure this must be an impostor.

I remember a few years ago the same scheme was used, using Dr. Brown's name.

Very truly yours, C. M. JACK, M. D.

134 West Prairie Avenue, Decatur, Illinois.

# JACKSON COUNTY MEDICAL SOCIETY AFTER CONGRESSIONAL AND LEGISLATIVE CANDIDATES

Murphysboro, Ill., July 3, 1922.

*To the Editor:* You will find enclosed a copy of resolutions and a letter which explains itself.

We wish to start an active campaign and start other county societies doing the same.

We are planning to get statements from all our candidates concerning their views about consulting doctors and medical societies concerning medical legislation.

Please give room for as much of this resolution and letter in THE JOURNAL as possible and help us. I am, Yours truly,

DR. M. E. ROLANS,

Secretary Jackson County Medical Society.

## RESOLUTIONS

The following resolutions were adopted at a meeting of the Jackson County Medical Society, held in Murphysboro, Illinois, March 22, 1922:

WHEREAS, Hon. E. E. Dennison, Representative in Congress for the 25th Congressional District of Illinois, has never consulted the Jackson County Medical Society relative to Medical Legislation; and

WHEREAS, Dr. H. G. Horstman, Secretary of the Jackson County Medical Society, informed Representative Dennison as to the attitude of the Jackson

County Medical Society on the Maternity Bill, which was then pending; and

WHEREAS, in his letter to Dr. H. G. Horstman, Secretary of the Society, he intimates that the Society was not familiar with the Bill, and therefore did not realize what was for the best interest of their patients; a gross insult to every member of the Society; and

WHEREAS, no woman, or new-born babe, has ever suffered in Jackson County for lack of medical aid when appeal is made; and

WHEREAS, none are better qualified to give prenatal advice to mothers than are the physicians whose lives are devoted to the care of mother and child from infancy to old age; and

WHEREAS, the State Medical Society is opposed to the Bill, therefore

*Resolved*, That the Jackson County Medical Society go on record as being opposed to Representative Dennison's attitude, and pledge themselves to make an active campaign against his re-election, using all their influence, and all honorable means to insure his defeat.

*Be it further resolved*, That the State Medical Society be requested to assist in the campaign in every way possible.

*Be it further resolved*, That a copy of this resolution be sent to all County Medical Societies in the 25th District, together with a copy of Congressman Dennison's letter to our Society, also a copy of this resolution be mailed to Representative E. E. Dennison.

## COPY OF LETTER FROM CONGRESSMAN E. E. DENNISON

Dr. H. G. Horstman, December 5, 1921.

Murphysboro, Illinois.

My Dear Dr. Horstman:

I am just in receipt of your letter of the 29th in answer to mine of earlier date and I am very glad to get a statement of your reason for being opposed to the bill which was recently passed by Congress.

If I correctly understand your objection, your opposition to the bill is based upon the theory you have that the bill is the entering wedge for state medicine. I want to assure you that I am just as much opposed to the idea of state medicine as you can possibly be and, therefore, our views are in entire harmony upon that subject. Where we differ is in our conclusion as to what the bill in question really does. You say it is the entering wedge for state medicine. I think I am justified in the inference that you are basing your conclusion upon what you have heard others say rather than upon an examination of the bill itself, because I do not think there was time for the amended bill to reach you and be given careful consideration before you wrote or wired me about the matter. On the other hand, the subject has been pending here in Congress for almost four years and has been the subject of a great deal of discussion. For instance, the bill was given consideration by the Committee on Public Health of the Senate on three different occasions and favorably reported three times. It was given consideration in the Senate itself twice and passed the Senate twice by an overwhelming vote.



The last time I believe there were only seven votes against it. Then over on the House end of the Capitol, the bill was given consideration by the committees of the House that handled public health questions three different times and favorably reported by the committee twice after long and exhausted hearings in which the doctors as well as others were heard. It was finally considered by the House and passed by an overwhelming majority.

"I happen to be a member of the committee whose duty it was to consider the bill and the hearings on it, and, therefore, I feel that I have had at least as good an opportunity as you to study it and to know its meaning, and I give you my judgment for whatever it may be worth that the bill not only is not the entering wedge for state medicine, but that it was never intended to be such. Not only is every state in the Union appropriating money and spending it in the interest of the public health, but the federal government has been doing so for the last seventy-five years. It has been thought by a great many very well informed people that the health and the lives of babies and of mothers would be better promoted and protected if information could be furnished to the mothers during the prenatal and postnatal periods with reference to cleanliness, sanitary measures, dietetics, nursing, etc.

The purpose of this bill is to stimulate or encourage the state governments through their Departments of Health to do what can be done to furnish such information with a view to decreasing the death rate among mothers and babies. It is not the intention of the legislation to furnish or supplant medical advice or medical attention. It is the intention of the legislation rather to supplement and aid the physicians in the country in this very important work. Its provisions will be administered only through the Department of Health of the different states which generally is under the charge of physicians or ought to be, and when the doctors of the country better understand the bill that was passed by Congress and see its possibilities, they will approve and applaud it, in my judgment, rather than criticize it.

You state in your letter that "a little knowledge makes one all wise; a little knowledge in this direction would make them all wise, and many would be the baby whose life would be sacrificed upon this little learning."

I think, Doctor, if you will pardon me for saying so, that after you have had time to reflect longer upon that theory, you will find wherein you have made a mistake. I do not think your profession would back you up in any such position. I can not conceive of any one who gives the subject serious consideration contending that it would be better for the country that the mothers be kept in ignorance of what they should eat, what precautions they should take as to cleanliness and sanitation, what precautions they should take with reference to hard work and other social and sanitary conditions at and surrounding the time of childbirth, and that it is wrong for the gov-

ernment, whose duty it is to look after the welfare of its citizens to furnish so far as it can, information with reference to such matters to the end that the mothers may better protect themselves and bring healthier babies into the world and keep them healthy after they come. I confess I can not get your point of view upon that question. I do not think education or enlightenment hurts any one, and especially is this true in the thickly crowded cities and in the congested industrial districts where thousands and thousands of people are in poverty and do not have the money to employ a physician for mere matters of advice on sanitary questions and social questions of that kind. Many thousands of them do not even have the money to employ a physician at childbirth. Children are going to be brought into the world, notwithstanding these conditions and the question is should not the state governments, through the Public Health Departments and through the municipalities and through their charitable organizations remove ignorance so far as it can be removed, and contribute as far as may be to the better health of the mothers and the babies. That is all there is in this legislation. There is no question of state medicine involved. It is a question of public welfare. There is nothing in the legislation that will injure the medical profession; on the other hand it will help the medical profession.

I trust you will pardon me for taking up so much of your time in connection with this matter, but when I feel that one of my constituents is in error about a matter of this kind, I feel justified in trying to point out at least what I think is his error.

Let me say too, that the Republican Party in the last national platform declared in favor of legislation of this kind. President Harding specifically promised, during the campaign on several occasions, that if elected he would urge such legislation before Congress; and in his first address to the Congress in April he recommended the early passage of this particular bill. In supporting the bill I was supporting the President and his campaign promises and acting in harmony with the other Republicans here.

Yours truly,  
(Signed) E. E. DENNISON.

#### THE BLESSINGS OF DEATH

Have you ever considered what would happen if everything that is born on the earth were allowed to live and multiply unchecked for a few months or even days, and what providential things disease and death are to us after all?

Take, for example, the green-fly, the pest and often the despair of the gardener. It is a microscopic insect. It takes far more green-flies than there are people in the United Kingdom to turn the scale at a pound avoirdupois. Yet so prolific are they that the progeny of a solitary female, if all survived and bred, would in ten days outweigh all the people on the earth a thousand times.

So prolific, too, is the common or domestic fly that in a single season one industrious female could count

her progeny to twenty millions, if all survived and followed her example of maternity. At the end of the fifth season her living descendants would be counted in thirty-seven figures, and the sky and the earth would be black with them.

Of a solitary pair of birds, under the same conditions of survival and breeding, the descendants would number in twenty years so many thousands of millions that they would blacken the sky over the whole of England.

A codfish lays at a time twice as many eggs as there are people in Scotland. If these eggs were all successfully hatched, and the resultant fish were to breed at the same rate, it is calculated that within five years the descendants of the solitary codfish would number many billions.

It is thus easy to see that in process of time—and no very long time, either—the progeny of a solitary fish could so fill and choke the seas of the earth that navigation would be impossible.

And the same is true, to a greater or less extent, of everything that is born on land or in the waters. If death and disease did not come to our aid the earth would soon be covered with a tangled riot of vegetation, in which there would be no room for man to live. The seas would be a solid, heaving mass of fish, and no ray of sunshine would ever reach the earth through the dense pall of the things that fly.—London *Answers*.

#### ACCUSATION WAS FALSE

"When I hired you last week," said the boss, who had summoned the new employe into the inner office, "did you tell me the whole truth about yourself?"

"Why, yes. What do you mean the whole truth?"

"Well, I have a letter about you. I will take your word if you tell me that it is false. The letter is anonymous."

"Wh—wh—what does it say about me?"

"Don't be scared. It doesn't accuse you of any kind of crime. It merely says that you are a reformed drunkard."

"That, sir, is a malicious lie, made out of whole cloth."

"That's all I wanted to hear you say. Don't worry about it."

And as the new employe went forth in the pride of his virtue, he said to himself:

"The idea. And I never thought of reforming!"—

#### GENEALOGY AND POPULATION

The testing of old and familiar hypotheses and general impressions by scientific methods is frequently possible by the application of statistics. A recent genealogical study of population presents some results of general interest. Five genealogies were used, extending over a period of 250 years and furnishing more than 20,000 individuals. Distinct correlation between longevity and fertility in both mothers and fathers is shown; in addition, of course, to the fact of a longer period of reproductive capacity. There is also clear

evidence of correlation between age at marriage and fertility, the lowest ages at marriage being associated with the greatest fertilities. Tabular presentation of the fecundity of first-born children showed no appreciable variation from that of the total stock. The data for twinning are strikingly definite, for out of eighty-seven cases of twinning, fifty-six occurred at the end of the mother's productive period, and of the five genealogies of approximately equal size, two provided fifty-seven of the occurrences of twins. In connection with the general population question it is noted that the average number of children per married couple was 5.8 for the period 1651-1700; rose to 6.1 for the last fifty years of the eighteenth century, and fell to 3.0 for 1851-1900. Corresponding to this change was a lengthening of the average interval between births from about 2.5 years in the first two periods to 3.41 years in the last.—J. A. M. A.

#### BILL TO PROVIDE SCHOLARSHIPS IN MEDICAL COLLEGES

A bill was introduced into the Virginia Legislature on February 2, authorizing the board of visitors of the Medical College of Virginia to offer twenty State scholarships in the department of medicine to students from Virginia, and making an appropriation of \$5,000 each for the years 1923 and 1924 for this purpose. The bill carries this additional provision: "Every student receiving the benefits of the scholarship provided for in this act shall practise medicine for a period of not less than five years after graduation in a rural section of the congressional district from which he or she is appointed, or shall repay the value of the scholarship to the Medical College of Virginia within the same period of time." The scholarships are to be allocated, or apportioned, two to each of the ten congressional districts, the beneficiaries to be selected following competitive examinations.

#### HIS CHOICE OF WARDS

Pat was brought to the hospital suffering severely.

"Which ward do you want to be taken to?" the house physician asked, "The pay ward or—"

"Anny ward that is safely dimocratic," Pat interrupted feebly.—Life.

#### DOES MUMPS EVER CAUSE MALE STERILITY?

The laity sometimes manifest a fear that the "descent" of mumps to the testicle may entail a loss of manhood. The observation of physicians fails to show definitely that mumps orchitis leads to any interference with potency. The usual explanation is that this complication occurs chiefly in adolescent and adult years, and perhaps it is inferred that incidence in the earlier periods of childhood would be more dangerous by preventing the full development of the gonads. In rare cases where impotence, sterility, or

loss of male secondary sexual characters has followed mumps or mumps orchitis it may have been a simple coincidence, for in any such event it would of course be necessary to exclude other causes of these conditions, to trace a proper relationship between the orchitis and atrophy or azoospermia, etc. During the late war regimental physicians had an excellent chance to investigate this subject, although naturally only in the case of adults. Bénard (*La Presse Médicale* October 15, 1921, xxix, 83) states that during the past twenty-one years over 200,000 cases of mumps have been recorded in the French troops. The percentage of orchitis was 17, and the cases of double orchitis amounted to only 0.6 per cent. About one-half the orchitides were followed by atrophy which was usually incomplete, and not necessarily permanent. The author can find a record of but five proven cases of impotence, with five more of doubtful character, and but two in which there was loss of male secondary sexual characters. There is no recorded case of azoospermia. At the outside then the chance of any mischief developing after mumps orchitis in adults is extremely slight, and the patient with forebodings may therefore be confidently reassured.—*Medical Record*.

#### DIPHTHERIA ANTITOXIN IN MUMPS

The do-nothing treatment of epidemic parotitis is largely taken for granted, and it occurs to hardly any practitioner to seek new resources. In 1917 the chance improvement following injections of anti-diphtheritic serum led to the systematic use of the latter in certain Italian and French clinics, with especial reference to warding off complications, notably orchitis. During 1921 an epidemic of mumps in a French garrison led to a trial of the serum and in the *Journal de médecine de Bordeaux* for January 10, 1922, xciv, 1, Mallié, a regimental surgeon stationed at Angoulême, reports his experience in the same field. The exhibition of the serum was limited to patients threatened with orchitis, who numbered 10, and in every case but one the orchitis seems to have been aborted. The question of routine administration in mumps naturally makes if necessary to fix the frequency of testicular complications; and as this shows considerable fluctuation it would be difficult to gauge the prophylactic powers of the serum. The incidence may be anywhere between 3 and 30 per cent, so that to be certain that wholesale prophylaxis has been successful an extremely low figure must be adduced in a large material. Salvaneschi, the originator of the treatment, injected 26 cases of mumps without a single development of orchitis, and the 3 times in 60 secured by Bonnamour and Bardin which equals 5 per cent of failures is lower than the average incidence which seems to run about 7 or 8 per cent for large material. Two sets of figures by des Cilleuls give an average incidence of complications, so that the prophylaxis of orchitis can hardly be said to have been achieved.—*Medical Record*.

#### SOCIALIZED MEDICINE

FREDERICK L. VAN SICKLE, M.D.

*Executive Secretary*

212 N. Third St., Harrisburg

The average practitioner of medicine today, who is not connected with some work linked up with the department of government, or who may not have been given the opportunity to become acquainted with the status of the practice of medicine as it operates today, can have no conception of the undercurrents which are affecting the practice of the healing art. To the average practitioner there is no disturbance, there are no undercurrents, there is no such possibility as socialized medicine; but let us candidly view the matter in a broad sense.

As a member of the Michigan State Medical Society says, in discussing this subject, "If we are fighting today with our backs to the wall to prevent the socialization of medicine and the degradation of the individual, it is because, in our race for bigness, we have permitted our moral and intellectual clearness to be befogged." It is this peculiar outgrowth of a long history and tradition affecting the practice of medicine that makes us individualistic. It makes us aloof from anything that does not affect our immediate conditions. The past we know and of the future we care little so long as we are not disturbed in our local environment.

But, friends, those of us who realize that something is occurring in the practice of the healing art, and that the public are more aware of this change than we who are delivering the goods, is it not time for each individual, no matter in what position or station his practice may be, to awaken and stand ready to become informed on what is doing outside of his immediate locality? *Our own ranks contain members who are not entirely loyal to the old traditions, of historic medicine. There are many who feel this trend toward change in practice, and, fearing that they are not abreast of the times, swing over toward the socializing theory, advocating plans and methods which are of foreign extraction, un-American in idea, and eventually demoralizing to those who are known as the "old guard" in the practice of the healing art.*

There are some examples to which we must call your attention in order to prove our point: compulsory health insurance, a thing which was prominently before the people of the state of Pennsylvania for four years, and which at any moment may become revived and be an issue for us to consider, the problems of health centers, welfare work, community diagnostic clinics and a change in the method of administering to the ills of the people whereby a physician becomes a part of a machine, both to lessen the cost and produce so-called efficiency now being discussed in other states. The latest is the Sheppard-Towner Maternity Bill, which in its last modification as a law still contains much that does not leave us in the best frame



of mind regarding the socialization of the profession by the government.

You no doubt will view this message purely in the light of a false alarm, and will ask if such conditions prevail, what is the remedy? In answer to the above question, we can only point to the most efficient means of combating unfair competition and control by applying the word "organization." If our medical fraternity can but realize these socializing efforts which are confronting us, not only in this but in every other state in the Union, there will be no effort too great in order that every eligible medical practitioner may be gathered together in organized effort, that they may understand the trend of the times and when called upon to express an opinion, it shall be done as with one voice, in place of a multiplicity of opinions so diversified as to be misleading to the average lay mind.

The divisions which have gradually come about in the practice of the healing art, by which cults and theorists have endeavored to wean away to themselves the favorable opinion of the public, are not for us to consider under this topic, and yet they have had an influence in creating a distrust in the minds of the public toward the old standards of medical practice. Our medical meetings should contain more that savors of the discussion of how to protect our own business and, in so doing, to protect the public, who have heretofore placed confidence in our sincerity and truth.—*Pennsylvania Medical Journal*, February, 1922.

#### SILVER SALVARSAN

The *Journal of Laboratory and Clinical Medicine* for June, 1921, in an editorial on this subject states that for some time accounts have appeared in medical literature of a new arsenic preparation used in the treatment of syphilis. This has been called "silver salvarsan," or more precisely the sodium salt of silverdiaminodihydroxy-arsenobenzene, and it contains approximately 22.5 per cent of arsenic and 14 per cent of silver. It is presumed that the silver for which spirochetes have an especial affinity serves as an anchor for the arsenic, and that therefore the drug, despite its lower arsenic content than arsphenamine, is more active therapeutically.

Animal experimentation seems to show that silver salvarsan is twice as effective as the old salvarsan (606) and three times as effective as neosalvarsan (914). Kolle states that silver salvarsan is old salvarsan in active form plus silver, and that 0.25 silver salvarsan is the equivalent of 0.4 of old salvarsan.

Dreyfus in discussing his experience with this drug in the treatment of syphilis of the nervous system says that silver salvarsan is three times as efficacious as the old salvarsan, that it acts more quickly, its toxic dose is higher, and it has the advantage of a combined silver and arsenic effect. He says that in nervous syphilis the indications are that the new preparation promises to be more valuable than the older ones, even when the latter are used in conjunction with mercury. It is Dreyfus's experience that,

especially in early cases, both subjective and objective symptoms show marked signs of retrogression within two weeks. More care is necessary in tabes than in other conditions, but in all small doses with carefully graduated increases are used.

Boas and Kissmeyer, after treating 62 cases representing all stages of syphilis, and using mercury with it, found that silver salvarsan was just as effective as old salvarsan, and in addition it was more soluble and easier to handle. They prefer it for these reasons only. K rsbjerg on the other hand is very enthusiastic over the new drug and has been so impressed by its effects that neither he, nor his chief Jersild, uses mercury either as an accompaniment or as a follow-up treatment. There were 32 cases in the series reported, of which 19 were secondary. In every case all symptoms had vanished within two weeks of the first injection.

The use of this silver-arsenic preparation seems from the reports to be attended by more danger than the older preparation. This danger is reflected in the dosages used—i. e., from 0.02 to a maximum of 0.25 in dilute solution. Anaphylactoid symptoms—redness and swelling of the face and buccal mucous membrane; pyrexia, cutaneous eruptions which are usually transient, and occasionally severe dermatitis; syncope, collapse, vomiting, vertigo and headache, and icterus are all listed as secondary effects.

Neurorecurrences seem from reports to be fewer after silver salvarsan than after the older drugs, but the cases are too few to be decisive.

A large series of cases treated with silver salvarsan is that of Behring, who reports upon his experience in giving 3,200 injections in 259 cases. In this series icterus occurred nine times, and angioneurotic symptoms six times. There was one death. In his experience no venous thrombosis occurred. Eruptions and icterus were not more commonly observed after silver salvarsan than after the older preparations. Silver salvarsan is well adapted to the abortive treatment of syphilis. Behring says that a definite verdict cannot as yet be given with reference to tabes and central syphilis, although tabes is apparently favorably influenced.

Wiener says that the curative effects in primary lesions, secondary and tertiary symptoms are very favorable and apparently not inferior to the results of a combined course of neosalvarsan and mercury in the customary dose.

The most recent report on this silverarsphenamine is based upon the experience of Major Watson of the Medical Corps, U. S. A., and has to do with the treatment of 800 patients, and more than 6,000 injections. The method of treatment recommended by the Board of Medical Officers, and the method used by Watson, was as follows:

An interval of seven days between each dose in each course of treatment. Treatment to consist of four courses of silver salvarsan and gray oil.

In the first course of treatment the first dose to be fifteen hundredths (0.15) gm. of the drug. The



second dose to be two-tenths (0.2) gm., and each of the remaining five doses of the course to be three-tenths (0.3) gm. of the drug.

At the end of the first course of treatment a Wassermann blood test is made and then thirty days' rest.

In the second course of treatment three-tenths (0.3) gm. of the drug is given at each of seven injections, at seven-day intervals, and is followed by two and one-half months' rest.

The third and fourth courses are the same as the second, with ninety days' interval between the two. Gray oil is used in conjunction with and at the same time as each injection of silver salvarsan, using eight hundredths (0.08) gm., by intramuscular injections.

A blood Wassermann is recommended after each course and a spinal fluid Wassermann after the second.

Such is the army intensive treatment. As against it Hoffmann says that one complete intensive course of treatment with mercury and silver salvarsan in primary syphilis will give a complete cure. Hoffmann, Neisser and Scholz believe that if treatment can be commenced in the prepositive Wassermann stage the disease can be cured in from 80 to 100 per cent of the cases. Nevertheless it is to be borne in mind that all persons who have had syphilis, no matter how rapidly the clinical signs disappear, nor how soon the Wassermann reaction becomes negative, should be watched both for clinical and serologic recurrences.

It seems from a review of the literature that in silver-arsphenamine we have a more potent antispirocheticide than any heretofore in use, and one which should be used with the greatest care. It seems to represent a real therapeutic advance.

## Society Proceedings

### COOK COUNTY

#### CHICAGO OPHTHALMOLOGICAL SOCIETY

*October 24, 1921*

DR. EPHRAIM K. FINDLAY, PRESIDENT

#### SKIN GRAFTS FOR CICATRICIAL ORBIT.

DR. HARRY WOODRUFF presented a patient upon whom he had performed skin graft for a cicatricial orbit. The patient suffered the loss of her eye from a lime burn in childhood. At the time of the operation the patient still had the stump of an eye which was enucleated. Skin grafts were put in by the well known method of placing Thiersch grafts on plates of lead or tin and fastening them in an artificial culdesac.

#### PHYSIOLOGIC HYALOID ARTERY REMNANTS.

DR. ROBERT VON DER HEYDT: When remnants of the hyaloid artery are seen by focal illumination with the ophthalmoscope they are considered persistent in the sense that nature has not fully completed the absorption in the normal manner. Very decided cases

of this kind are often associated with various other congenital ocular malformations.

The hyaloid artery is carried forward to its expansion on the posterior capsular surface of the lens in the third month of fetal life. At birth, according to Parsons, the whole of the vitreous lental system of blood vessels has become absorbed and has disappeared. That this was not quite true has now been disclosed by the Gullstrand slitlamp in conjunction with the binocular microscope, in observing the living eye.

A very large percentage of normal eyes show a long spiral-formed vessel remnant attached somewhat nasally and downward from the lens center on the posterior capsule. This physiologic remnant hangs downward in the now definitely discernible optically empty posterior lental space, first described by Berger. This space, as can be easily observed, is quite a large and deep one, not as mentioned by Salzmann, a capillary slit. On motion of the eyeball, the lower free end of the spiral remnant is seen to gyrate or swing freely. At times the spiral elongates to quite a degree during this movement.

That we are dealing with the physiologically natural disposition of this remnant and not with an occasionally pathologic persistence of this vessel structure is now certain. First of all, there is found a uniformity in thickness. Secondly, the great number of instances where these structures are found in normal eyes absolutely excludes their presence as being a chance finding. At least 50 instances in youthful individuals where the pupils were dilated incidental to refraction within the last year have been observed in his office practice.

There can be no doubt that this delicate structure is destroyed in the process of fixation and hardening incidental to the preparation of specimens for histologic examination. Other structures that did not withstand this process of preparation have been observed in great numbers by examination of the living eye with the slitlamp under high magnification. Among these it is interesting to mention the various types of vacuole formation within the lens structure, subcapsular in location, and the physiologic and pathologic dew-like changes in the cornea. We commonly find star shaped pigmented remnants of the pupillary membrane on the anterior capsule, and exceedingly often delicate cotton and spider web like remnants attached to the iris and floating with free ends in the equecus. These latter are found in about one-third of all eyes, though not as frequently in old age.

Why do we find these remains of the hyaloid artery in some eyes and not in others? Why, when found, are they always bilateral?

There are several factors which predispose to their finding final lodgment in the post-lental space. First, we must assume that in order to make their appearance within this space a comparatively central or more posterior severance of this vessel must occur. This was proven for, when found, they were all quite long. It seemed quite likely that during the growth of the

eyeball the vessel remnant was drawn taut. At the time of the rupture, for this reason, it was projected toward the lens. This tension seemingly also accounted for the spiral and curled up form always assumed by the hyaloid artery remnant.

If the point of separation was anterior and there be space present within the posterior canal, the longer end might for the same reason normally gravitate toward the nerve-head attachment, where he anticipated it might be found in many cases, were we to succeed in making better observations and penetration by focal light into this area. It must, however, be remembered that in this area the increased reflection from the retina and luminous nerve-head might be sufficient to obscure this delicate structure. In the anterior situation behind the lens it was only visible when under direct focal illumination.

As a patency of the canal of Cloquet is necessary for a successful gravitation, the normally variable fluidity of the vitreous within certain limitations would not be a factor favoring its appearance or absence, except that possibly its swaying motion might aid dislodgment.

In order to expect to find the artery remnant posterior to the lens it therefore was necessary that a somewhat posterior separation occurred and the canal be open and free to admit of its gravitation. A certain position of the fetal head in utero probably favored the gravitation toward the post-lental space, at the time of the splitting of this vessel remnant, a third and important factor contributing toward the creation of this new and interesting histological finding.

#### AFFECTIONS OF THE EYE INDUCED BY UN-DUE EXPOSURE TO LIGHT RAYS.

PROFESSOR J. VAN DER HOEVE, of Leiden, Holland, said this topic was of sufficient importance to re-emphasize some of the points he had previously brought before the profession. (*Amer. Jour. of Ophth.* v 3 p. 178).

Formerly, lack of illumination in schools and in factories was spoken of, and ophthalmologists went around with photometers to determine if in different places the scholars, the workers in factories and other industrial establishments had sufficient light. Today every school and every factory has the necessary amount of light, and we do not think so much about a lack of light as we fear that the artificial light sources are so strong as to affect the eyes. It is very well known that undue exposure to light, either natural or artificial, is a factor in causing many ocular disturbances.

In Europe, during eclipses of the sun in the last ten years, hundreds and perhaps thousands of people had damaged one or both eyes in staring at the sun with their eyes wholly unprotected or imperfectly protected.

Regarding the different parts of the spectrum which can cause disease, the infra red rays have been the least studied. Vogt attributes to them the causation of glass workers' cataract. The visible rays are gen-

erally considered to be the cause of eclipse blindness. The effect of the ultraviolet rays on the eye is that which has been the most studied, especially in the last fifteen years.

Not all the ultraviolet rays, which fall on the eye, are transmitted. The different media absorb a great part of them. Numerous experiments have been conducted to determine the absorptive capacity of the various structures of the eye for ultraviolet rays; and altho the results of the observations and investigations of different men are somewhat at variance, it is known with certainty that the cornea and lens in particular partially absorb the ultraviolet rays.

The experimental work of Parsons shows that the cornea absorbs all rays beyond 295 millimicrons completely, and has no absorptive capacity of rays of greater wave-length; whereas the lens completely absorbs all rays beyond 350 millimicrons. The line is not a sharp one, absorption commencing at about 400 millimicrons. There are lenses which beyond 400 millimicrons absorb completely. Hallauer found youthful lenses which transmitted rays of 310-330 millimicrons, and Schanz a juvenile lens, which transmitted rays from 300 millimicrons upwards.

From these results it is known that when ultraviolet rays fall on our eyes, the surface is reached by rays of every possible wave length, the iris and lens by rays from 295 millimicrons upwards the retina as a rule only by rays from 350 millimicrons upwards, in some cases from 300 millimicrons, and in others 400 millimicrons and upwards.

As a typical instance of the effect of natural light rich in ultraviolet rays on the human eye there is the well known snow-blindness. As sources of artificial light of this kind, which can damage the eye, the author speaks of arc lamps, mercury-vapor lamps, electric-welding, short circuit flashes, etc. Changes by lightning are generally attributed to other causes.

One of the first affections which the human eye suffers from natural and artificial sources of light rich in ultraviolet rays is photophobia, which is characterized by intense photophobia and lacrimation, with frequently blepharospasm and ciliary neuralgia. There is acute conjunctivitis and in the severest cases the cornea and iris may be involved in the inflammation. The inflammation of the superficial parts of the eye is generally attributed to the shorter waved radiation, whereas the affection of the inner eye is caused by the longer waved ultraviolet rays and the light rays. This difference is probably the cause of the two different kinds of snow-blindness that we distinguish, one with a preponderance of the external disease of the eye, the other with a preponderance of the internal disease of the eye, which may be found separate or together, according to the presence of rays of shorter or longer wave length, or of both.

Birch-Hirschfeld has found that the posterior layer of the iris can be seriously damaged, and that the ciliary processes show hyperemia, hemorrhages, swelling and desquamation of the epithelium, and inflammation with fibrinous exudation in the anterior and

posterior chambers. The inflammation of the eye was especially developed in the ciliary processes; the choroid showed hyperemia. In the retina this author found degeneration, especially when the eyes were aphakic. Nearly every part of the eye can be damaged by light, rich in ultraviolet rays. It is known that in sunlight and in diffuse daylight many ultraviolet rays are present, especially those with a wave length between 300 and 400 millimicrons. In the last twenty-five years the range of rays emitted by artificial lights contains more ultraviolet rays than formerly. Consequently during the whole day, at least as long as our eyes are opened, they are irradiated by light rich in ultraviolet rays—sunlight, diffuse daylight, artificial light—therefore the fear is justified that this may damage our eyes.

Daland in 1917 pointed out that the Eskimos on the coasts of Alaska, Siberia and the islands of the Behring Sea, and Arctic Oceans suffered very much from snow-blindness even on cloudy or dull days. Many Alaskan pioneers have suffered snow-blindness by dispensing with goggles, under the conditions, believing that they were safe as long as the sun was hidden by clouds. The experience of the Eskimos is sufficient to prove that diffuse daylight may damage even in bottle makers. Brockman gave to Snell not be called ideal, which make the light equal to diffuse daylight. The Eskimos show conjunctivitis, cataract, trachoma, and snow-blindness as common ocular diseases. The conjunctivitis and snow-blindness may be caused by the ultraviolet rays. Relative to cataract it is an open question whether it can be caused by ultraviolet rays.

In 1898 Hirschberg pointed out that in India senile cataract becomes mature about twenty years earlier than in Europe. Whereas in his clinic in Berlin cataract comes to operation at an average age of 62 years, he saw in the hospitals of Calcutta, Jaipore, Bombay, that Hindus were operated for senile cataract about the age of 46 years. Hirschberg attributes this early maturity of the cataract to the heat of the sun, but Professor Van der Hoeve says it may just as well be ascribed to the other rays of the sun. Snell seems to agree with Hirschberg in regard to the age of the cataract patients who come to operations in Europe. Hirschberg found in Germany an average of 62 years for senile cataract, and Snell found about the same age even in bottle makers. Brockman gave to Snell the following statistics about the age at which he operated cataract in India:

In Snell's statistics (England) the age of operation is in 78 per cent. between 51 and 70 years; in Brockman's (India) in 75 per cent. between 40 and 60. Whereas in Snell's statistics the decennium 61-70 contains 47 of the 78 per cent., in Brockman's statistics the decennium 51-60 only 40 of the 75 per cent. We can draw from the two sets of statistics only the conclusion that in India, where Brockman operated, senile cataract comes to operation more than ten years earlier than in Sheffield. Snell tries to explain this fact by the earlier maturity and short lives of the In-

dian natives, but the fact remains that in India cataract is earlier than in Europe.

According to certain observers if ultraviolet rays cause cataract, people who live in high regions would have more cataract than other people, and this is not known to be the case. Light certainly in the mountains contains more ultraviolet rays than in lower regions because the diffusion of light is less than in the higher regions. But this increase of ultraviolet rays is greater for the rays of shorter wave-length, than for those of longer wave-length, and it is known that they first cause irritation of the eye and photophthalmia, so that the eyes must be kept more closed or be protected by goggles; in both cases the number of rays which reach the lens will be diminished.

If light is a factor in the origin of cataract it is only one of a great many factors, which act on the whole organism or on the eye alone. That light is a principal factor in the origin of senile cataract is rendered highly probable by established facts.

How is it possible that light, rich in ultraviolet rays, damages the lens so that senile cataract occurs? The opacities obtained have nothing to do with senile cataract, which almost never begins in the pupillary part. Just like the epithelium of conjunctiva and cornea, the capsular epithelium too may be damaged directly by relatively short exposure to extremely strong light, rich in ultraviolet rays.

The author put forward the hypothesis in 1912 of how it is possible for the ciliary body to be damaged when the eye is exposed to light, especially rich in ultraviolet rays, which could cause senile cataract. In snow-blindness the ciliary region shows tenderness, when it is touched, and the patients suffer from severe ciliary neuralgia. The ciliary processes are damaged, but how is this possible? The ciliary processes are well protected from the influence of light, by cornea and iris, by conjunctiva, sclerotic, the muscular part of the ciliary body, and the pigment layer. The author pointed out that the lens is optically heterogeneous, not homogeneous.

By the expression optical heterogeneity is understood that there are present small particles which when light falls upon them, become light sources themselves and *disperse the light on all sides*. Optical heterogeneity is best known by the fact that a sunbeam falling thru a narrow slit into a dusty room can be seen from every side, because every particle on which the light falls, spreads the light on all sides.

Fluorescence is the quality of a substance that every part of the substance becomes, if light falls on it, a source of light itself which spreads the light on every side. In contrast to diffuse light the wave-length of the fluorescent light is different from the wave-length of the light which causes the fluorescence.

If the ultraviolet rays are less in number and the light which strikes our eye is not so intense, no inflammation will occur; but the continual everlasting radiation of the few ultraviolet rays on the ciliary processes will be able in the lapse of years to cause changes in the epithelial cells, so that the secretion



is changed a little. Even a very trifling alteration of the aqueous is sufficient to cause malnutrition of the lens which may, in the course of fifty years or more, lead to obscuration of the lens, to senile cataract. When the diffusion of the lens is so strong that cataract ensues, it is probable that the pupillary part of the iris, and perhaps even the posterior layer of the iris will suffer too from the radiation of rays of short wave length, altho they are much more resistant than the ciliary epithelium.

Is there any affection of the retina known which can be due to the ultraviolet rays and can be compared to the senile cataract? The author thinks we have such an affection in the senile degeneration of the macula lutea, which appears as a rule after sixty years and becomes more frequent the older people are. With reference to cataract the author has never found a degeneration of the macula directly after the extraction of senile cataract; and in the records of about 500 cataracts operated on in the last twenty or more years he has not found one case.

It was pointed out some time ago that when the possible effect of ultraviolet rays was very much overrated it was proposed to make windows of protecting yellow green glass, to cover every artificial light with them and to wear goggles. The author does not think now that anybody will be so afraid of those rays as to condemn people continually to wear protecting goggles, and he thinks also that it is not at all essential to protect our eyes continually. People in a normal condition might wear one of the protecting kinds of goggles, only when they are more than usually exposed to ultraviolet rays, i. e., on sunny days at the shore, or on the river, or on strongly reflecting roads and places on ice and snow-fields in hunting in the field, etc. Those people who have to labor continually in the vicinity of lamps which irradiate many ultraviolet rays will do well to cover the light with one of the protecting glasses. While light rich in ultraviolet rays is a prominent factor in the origin of cataract and degeneration of the retina, it is only one of the numerous factors which may have an influence on the origin of these diseases.

#### DISCUSSION

Dr. E. V. L. Brown stated that in those eyes which developed cataract there was not only a change in the ciliary epithelium but also some change in the pigment area itself, and perhaps these rays came from behind rather than from in front, as Professor van der Hoeve had explained.

Dr. William A. Fisher asked: Supposing that in a few sections of India the excess of heat is the cause of cataract, why are there not more cataracts in proportion to the inhabitants in the southern part of India than in the northern part? From the northern part of India a larger number of cataracts were reported than from the southern part; therefore, cataract must be more frequent among the population in the northern part than in the southern part. Why should the proportion not be equally as high or higher in the southern part where it is hotter. In India children 13 and 14 years of age were mothers. They developed earlier, and naturally they must have cataract earlier. Strange as it would seem, there were very few patients in India operated on for cataract who really knew how old they were.

Professor Van der Hoeve, in closing the discussion, and in replying to Dr. Brown, stated that it was possible the

changes in the pigmentation of the iris came from the anterior also, and that there were more ultraviolet rays from the anterior part than the posterior part. The posterior layer was always diseased in cataractous eyes. The posterior rays would seem to have a peculiar influence on the structures within the eye.

He agreed with Dr. Fisher that it was difficult to determine the ages of Indian people. Major Smith and Elliot maintained that cataract occurs earlier in the Indian people than in others. Cataract was seen in people of 30 to 40 years of age.

As to cataract being more frequent in the northern part of India, he did not believe the heat of the sun had much to do with it. In the Eskimos, who were exposed to the strong rays of the sun, cataracts were very frequent, and they received more ultraviolet rays in the polar regions and in the equator than we did.

#### JOINT MEETING OF THE CHICAGO MEDICAL AND CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETIES.

A joint meeting of the Chicago Medical and Chicago Laryngological and Otological Societies was held on Wednesday evening, November 9, 1921, with Dr. Robert Sonnenschein, president of the Chicago Laryngological and Otological Society, in the Chair.

Dr. M. A. GOLDSTEIN, St. Louis, Missouri (by invitation) addressed the Society on "Problems of the Deaf."

#### (Abstract.)

Not only the general medical profession but even otologists throughout the country know very little about the work that is being done in conjunction with the education of the deaf children. Chicago is peculiarly fortunate in its relation to the deaf child. It is the first city west of the Alleghenies that developed oral training for deaf children.

There are two methods of oral training of the deaf child, one of which is by sign language in which signs, instead of speech, are used, and the other method is to teach children, who have never heard the sounds of the human voice, speech, even though it is artificially produced, and lip-reading, so that they can come in contact with the rest of speaking humanity. The deaf child can be taught to speak and to come in contact with people by lip-reading, a method which is used both for the child and the adult where hearing has been either congenitally or adventitiously lost.

The public school system of Chicago has since 1896 shown the possibilities of oral training and speech training for deaf children instead of the sign language. Much of this good work has been brought about by the conjoint request of the parents of deaf children and of boards of education who feel that deaf children should have such opportunities as are offered normal children, in order that they may grow up to manhood and womanhood. It has been a long and hard struggle for the few who have interested themselves in these problems to actually convince other members in the profession that the opportunities for deaf children are great. Splendid progressive work throughout the country is being done, and otologists should help to shoulder the responsibilities which tend toward the development of deaf children.



It is by the cooperation of the medical profession, and particularly the otological and laryngological members of the profession, that improvement in the education and development of methods for deaf children can be brought about. The sky has been cloudy for one-quarter of a century, but the dawn is coming, and there are specialists throughout the country who are beginning to show more than a passing interest in these problems of deaf children. There is a responsibility that medical men and otologists owe to deaf children, and the deaf child is as much entitled to a share of consideration as is the blind child, the normal child, or the crippled child. Every child born deaf, who is not subnormal and has no mental defects, should be given the opportunity of being taught like normal children. Every congenitally deaf child can be taught fluent speech, as has been proven in all large metropolitan centers of the country. Deaf children, who have had six or seven years of training in their respective schools, are going to high schools and are sitting in the class room with normal children and carrying on their work. For instance, there are three or four deaf children in Chicago who are doing that, one of whom is the scholarship pupil in his class. He is getting his lessons by lip-reading. This is the opportunity the teacher and otologist is creating for the deaf child in the future. The time is coming when teaching methods will become more perfected, when imperfections in speech will be corrected. Not all deaf children speak distinctly, nor do all doctors speak distinctly, but this should not be taken as a criterion.

Through the courtesies of the teachers of the several schools for the education of the deaf in Chicago, and to show what progress is being made and what is being done in actual practical work in the school room, Dr. Goldstein called the classes one by one and had the teachers demonstrate what the deaf children could do by lip-reading and other methods of oral training. There were classes representing the Parker Practice School, the Beidler School, and the Alexander Graham Bell School. Demonstrations were given by the children through their teachers. Miss Plumb of the Parker Practice School and her pupils gave a demonstration of the first signs of speech. When Miss Plumb spoke the words thumb, shoe, eye, elbow, nose, etc., the pupils pointed respectively to their thumbs, shoes, eye, elbows and noses. She then showed the first elements in speech by lighting a candle and having the children blow it out by uttering the sounds P, O, sh, T, wh, and ah.

Dr. Goldstein said that musical instruments are used, besides the voice, in training children to learn rhythm, accent, and to appreciate pitch. In some schools this is being developed to a considerable degree. Demonstrations of rhythm work were given by Miss Smith of the Parker Practice School with her pupils, with Miss Jones at the piano. Music is used not only for rhythm but to educate tactile sense.

Miss Knox of the Alexander Graham Bell School gave demonstrations of what the pupils in the hard-of-hearing class could do by lip-reading.

Miss Golden of the Beidler School with her pupils gave demonstrations in lip-reading, and Miss Taylor of the Parker Practice School gave a demonstration of what her pupils could do in arithmetic by lip-reading. These demonstrations showed that every congenitally deaf child can be trained to speak and can be trained to lip read to such a degree as to become a useful member of the community in which he or she lives.

DR. GEORGE E. SHAMBAUGH read a paper entitled "Problems of the Hard-of-Hearing and the Use of Electrical Hearing Devices."

(Abstract.)

Otologists have been interested principally in the diagnosis and treatment of diseases affecting the organ of hearing. There is another problem of great importance, that is the legitimate function of the otologist to help solve, and that is the problem of what can be done for those cases of increasing deafness which are not amenable to treatment. Otologists as a class have been slow to appreciate their obligation in these cases. The result is that those afflicted in this way have been left largely to their own resources in attempts to solve their problems. It is important that otologists take up more seriously the question of what can be done for these cases. The field is rather an extensive one, for it involves social and economic questions as well as the important one of what can be done to bridge over the chasm resulting from the defect in hearing. The busy otologist with his interests centered on the diagnosis and treatment of disease of the ear finds himself handicapped by the lack of time necessary to carry the extra burden of solving these additional problems. Fortunately there has grown up an institution, the comprehensive aim of which is to ameliorate the condition of those who are losing their hearing. This institution is the League for the Hard-of-Hearing which aims not only to assist in bridging over the chasm created by the loss of hearing, but as well in solving the social and economic problems of these cases. Already there exists in several of our larger cities similar leagues to that which Dr. Phillips has been instrumental in organizing in New York. It becomes the duty of otologists to assist in every way possible in the organization of similar leagues throughout the country to take up the work at the point where the efforts of the practicing otologists cease.

Our work as otologists will continue to be chiefly in the diagnosis of ear disease and in the treatment of those cases where treatment is of assistance, but we should not neglect the important duty of giving proper advice to those cases where the conditions do not call for local treatment. First of all, it is our duty to give advice regarding the value of taking up lip-reading and to assist these patients in selecting proper devices which serve as aids to the hearing. It is in regard to the latter that he desired to make a few observations. A large number of such devices exist, some of which are of use in one type of deafness, some in others. Still others have no particular value and

some devices advertised as aids may even be a source of danger to the remnant of hearing. It is clearly the business of the otologist to be able to advise his cases intelligently regarding the use of these instruments, yet, as he has already pointed out, they have been negligent in not taking seriously enough this responsibility. We are all aware how hopeless it is for the patient unadvised to find out these facts for himself. Some of these devices, especially the "artificial ear drums" as well as certain electrical hearing devices are advertised to the public making extravagant claims that are, to say the least, misleading. What are the facts regarding the value of these devices intended as aids to hearing? He did not attempt to discuss in detail all there is to learn about these instruments, but pointed out some of the outstanding facts about which otologists should be informed.

In the first place, it is hardly necessary to say much about the abused use of "artificial ear drums." Such devices are of especial assistance only in exceptional cases of chronic suppurative otitis media with destruction of the conducting mechanism in the tympanum and then only, of course, where the defect in hearing is quite marked and involves both ears. The simple rubber disc with a string attached to assist in carrying it into the fundus of the canal and by which it may be withdrawn, is all there is to this device. Usually the patient himself learns to adjust this so that it is lodged properly against the remnant of the stapes so as to improve the response of this important link of the sound-conducting mechanism to sound impulses.

It was more especially in regard to the hearing devices intended for the non-suppurative ear diseases to which he desired to call attention. There are in general two types of instruments intended for these cases. One type consists of a device intended to assist in collecting sound waves from the air and conducting them into the external meatus. These are the ear trumpets and speaking tubes. The other type operates on the principle of the telephone receiver with a pocket battery. These two types of instruments are not equally useful in all forms of deafness. In a general way the ear trumpet and the speaking tube are of assistance in cases of obstructive middle ear deafness, as well as in those of primary nerve deafness. It is in the latter, however, where they find their greatest application. In the more advanced cases of nerve deafness the speaking tube is the only hearing device that affords any material assistance.

A great deal of confusion exists among otologists regarding the application of the electrical hearing devices, of which there are a number on the market. There are some very definite facts regarding the application of these electrical hearing devices. The first outstanding fact is that they are of distinct help only in certain types of deafness and not in others. In this respect they differ from the application of ear trumpets and speaking tubes, which are of assistance in all types of deafness.

A defect in hearing is always due to one of two conditions, either of which may be acting separately

in particular cases or both may be active in the same case. In the first place, there is the defect in hearing caused by some obstruction to the sound impulses reaching the nerve of hearing. The simplest example of this type of trouble is where the canal of the ear is occluded by a plug of cerumen. Anything which causes fixation of the sound-conducting mechanism in the middle ear produces a defect in hearing by hindering the transmission of sound impulses from the outer air to the end organ of hearing in the cochlea. This includes the several types of middle-ear disease, as well as the condition known as primary fixation of the stapes. It is the latter process which is the principal cause of the hearing defect in most cases of hereditary deafness.

The second cause for defective hearing is where the nerve of hearing fails to respond normally to the impulse of the sound waves. This is called nerve deafness. This condition may develop primarily but it frequently develops secondary to long-standing obstructive middle-ear deafness.

The otologist finds no difficulty in distinguishing these two types of deafness, especially where they develop independently of each other. Confusion is sometimes caused by the mixed types of deafness, that is, where there is an interference with the sound impulses reaching the nerve as well as a defect in the nerve itself. More difficulty is experienced in distinguishing the several types of obstruction in the sound-conducting mechanism. He has never seen a case of pure nerve deafness, which received any considerable assistance from the use of an electrical hearing device.

It is in the cases of obstructive middle-ear deafness where the electrical hearing devices are of benefit, and it is particularly in those cases where the obstruction is due to primary fixation of the stapes that they are especially useful, because it is in these cases as a rule where the defect becomes so severe as to render the use of a hearing device of practical value.

MISS VALERIA D. McDERMOTT, Executive Secretary of the Chicago League for the Hard-of-Hearing, read a paper entitled "Community Organization for the Deafened."

(Abstract.)

The work of the League begins at the place where that of the otologist ends. Its primary purpose is to ameliorate the condition of the deafened. And what is the condition of the deafened? This question can best be answered by giving a typical illustration:

With all hopes of cure removed, unable to enjoy or take part in family or friendly conversation or hear a concert, lecture, theater or church service, or earn a livelihood in a profession or occupation in which they have spent years of preparation or service, they come to the League. A hopeless condition it would seem. But it is not, for the league has yet to encounter a case that it could not help. In many instances it has transformed discouraged, listless, purposeless, unproductive individuals into happy, self-supporting members of the community.

How is this accomplished? Not by an experiment,

but by an organization and a plan worked out by those who had a psychological and sympathetic understanding of the problems of deafness—the deafened themselves. In this respect it differs from all other organizations working with handicapped groups, and also explains its success as a growing and spreading movement, for there are now twenty-two cities with like organizations doing a similar work for the hard-of-hearing.

The first assistance given to those who come to the League is to offer a substitute for their impaired or lost faculty, sight for hearing—teaching them to read the lips. Then, unconsciously, through association with others, who have met the same handicap and overcome it, confidence is inspired and self-pity vanishes.

There are many things that persons with defective hearing can do. There are vocations and professions just as interesting as those that have to be abandoned. This is the psychological attitude that the League creates in relation to employment, and gradually those who have in their own minds despaired of being able to earn a living, become interested, begin to inquire, want to restrain or will try the position advised.

From April 1, 1920, to March 31, 1921, 6,979 persons came to the League; 2,661 men and women attended the lip-reading classes; 1,382 lessons were given to 12 ex-service men sent to the League by the Federal Board for Vocational Education. A lip-reading class for adults was established in the Lowell School, Oak Park, Illinois. Three scholarships in lip-reading were awarded, one to a shut-in girl and two to young women employed.

Employment was found for applicants in the following lines of work: Housework, typing, bookkeeping, filing, addressing, cashier, commercial art, press clipping, accounting, assembling, printing, proof-reading, and gardening. A study of professions and occupations that the hard-of-hearing can follow was begun and is being continued. Vocational counsel was given, and, as a result, a number of persons are pursuing courses of study. Three ex-service men are receiving training in industrial chemistry, mechanical dentistry and cabinet-making. Two women finished courses and were placed in positions in filing department. One man is taking a course in watchmaking, and two women, a teacher and a trained nurse, were advised to pursue courses, one in arts and crafts, and the other in microscopic analysis. These two women were given scholarship loans by the League, making it possible for them to take the training advised.

This year the League plans to project its activities into the community, becoming more a public institution and less a private agency. The establishment of a community house for the deafened similar to those already established in Philadelphia, Boston, Toledo, and San Francisco, is now under consideration. The employment service of the League is to be extended, for herein organizations for the hard-of-hearing can render the greatest assistance. The third feature of the program takes the League into the field of prevention—the establishment and maintenance by the

League, in co-operation with the Chicago Department of Health, of an ear clinic in the public schools.

It is just as important and possibly more so, that the children's ears receive proper examination and treatment, as their eyes or teeth, although there is only one city in the United States—Rochester, with its eminent Dr. Franklin W. Bock, that has gone into this field and done a large and constructive work. The matter of establishing a clinic is now before the Executive Committee, and the details are not entirely worked out, so that it can only be referred to at this time as a possibility for greater service, and a measure taken for the prevention of deafness in early life.

#### DISCUSSION.

MISS MARY McCOWAN, teacher of the deaf in Chicago, stated that 38 years ago she came to this city and established a small experimental school for teaching the deaf. She rejoiced to have lived to see the day when it was an accepted fact that deaf children could be taught to speak, and it was our duty to see that they were taught to speak.

DR. FRANK G. BRUNER, Director of Special Education, Public Schools of Chicago, said the teachers of this city would welcome any suggestions from members of the medical profession in reference to better methods of teaching the deaf. We were just at the threshold in the teaching of the deaf, and phenomenal progress might be expected in the future in comparison with what had already been done. His experience had been that physicians, and sometimes even otologists, did not seem to appreciate the necessity of getting deaf children into schools for the deaf at an early age. It is not necessary, as some had supposed, to consult politicians in order to get such children into schools for the deaf. Deaf children are admitted to these schools when four years of age, but he did not think it was wise to admit them younger than this.

MISS GERTRUDE TORREY, Principal of Chicago School of Lip-Reading, said a great many people become deaf after reaching adult age, and they need lip-reading as much as the children. Probably all doctors who recommended lip-reading thought it was only the young people who needed this education, but most important of all was the change of attitude of mind which came from lip-reading, and all doctors ought to think of this in recommending lip-reading not only to people who were deaf, but to those who were becoming deaf.

DR. NORVAL H. PIERCE stated that not long since he examined the inmates of a large deaf and dumb asylum and found that at least 10 per cent. of those he examined could hear more or less, and yet those children were living a life of silence, and most of them communicating with one another by means of sign language. Strange as it might seem, those children were admitted to this institution without the slightest scientific examination.

State institutions should keep in close touch with well-informed otologists, and while it was true that otologists had not been as much interested as they might have been in this subject of training and educa-



tion of the deaf, he was inclined to think that teachers of the deaf had not been quite as much interested in otologists as they might have been. There was no doubt but what these two component parts had in this country developed along separate lines. This could not be said of Germany, where a great advance in the education of the deaf by the oral method had been made, the work being furthered by professional otologists. He believed it would be a good thing if from this meeting a closer communion could be established between otologists and teachers of the deaf.

DR. JOSEPH C. BECK said it was such splendid demonstrations as Dr. Goldstein had given that stimulated otologists to become more and more enthusiastic to do better work. One difficulty lay in not being able to teach deaf children privately, as was required by some parents. It had been difficult at times for the teachers to devote the necessary amount of time to give these children private instruction.

In regard to the humming, buzzing devices referred to by Dr. Shambaugh, the speaker called attention to a device known as Rice's oscillator, which was supposed to greatly aid the deafened. In cases in which a diagnosis of fixation of the stapes was made, he was anxious to see if these people could be made to hear again with this oscillator.

In the east at the present time there was a great deal of discussion going on with regard to the use of the x-ray in the treatment of deaf individuals.

DR. ELMER L. KENYON stated that in a certain school in Chicago, largely attended, there had been up to within a few weeks a brother and sister attending, aged 13 and 15 years respectively, whose hearing was so impaired they could not possibly hear what was going on in the classroom, and yet had been attending this school (not a public school) year after year. These children should have been properly educated in deaf schools. Nothing could point with more emphasis to the need of adequate medical inspection in the schools than such serious mishandling of deaf children.

Dr. Kenyon cited the case of a man, 24 years of age, who could not talk understandingly, could not hear well, could not read and who, seemingly, lacked in normality of intellect. Examination showed that he could hear loud talking on contact with the ear. His mind was normal considering the handicaps he had gone through. He could not read more than perhaps every tenth word in a child's book. He had been deafened when he was a child and had had practically nothing done for him. Finding the public school almost useless he had, after three years of attendance, been taken out, and afterward had simply been allowed to drift, uneducated, into manhood. Meetings like the present, spreading knowledge of such problems, should eliminate these life tragedies.

DR. M. A. GOLDSTEIN, St. Louis, Missouri, in closing the discussion, said it required a tremendous amount of patience, forbearance, originality and individuality on the part of the teacher of the deaf child. There was no better work being done for the deaf in any of our metropolitan cities than in Chicago.

## CHAMPAIGN COUNTY

June 15, 1922.

WHEREAS Dr. H. C. Howard died at his home in Champaign City, on Monday, June 5, 1922, at the exceptionally ripe old age of nearly 93 years; and whereas Dr. Howard assisted at the organization of the Champaign County Medical Society in March, 1859, more than sixty-three years ago, and has since kept up his membership, thereby becoming the Nestor of Medicine in our locality; and whereas he assiduously and industriously practiced his profession for a much longer period than any physician in the history of this County:

Therefore, be it

*Resolved* that we, the members of the Champaign County Medical Society, take pleasure in commemorating the exceptional services and honoring the memory of one who so long and so faithfully contributed his time and abilities to the alleviation of human suffering in the community where for two generations he had his home.

*Resolved* further that we convey to the family and friends of the deceased this expression of our appreciation of the skillful, kindly and long-rendered services of one who among his fellows was the very embodiment of "Good Will Doing Service."

(Signed) CHARLES B. JOHNSON,

J. S. MASON,

CLEAVES BENNETT,

Resolutions Committee.

## IROQUOIS COUNTY

The July meeting of the Iroquois County Medical Society was held at the City Hall in Watseka, Friday evening, July 7.

Chairman Ross called the meeting to order, and the minutes of the previous April meeting were read by Secretary R. A. Buckner.

Chairman Ross was in receipt of a letter from Dr. Rawlings asking for the cooperation of the society in the reporting of births and deaths. No action was taken on this request since such reports are required by law, and no action seemed necessary.

There was no further business to come before the meeting so Dr. Ross introduced Dr. Carl Davis of the Presbyterian Hospital, Chicago. Dr. Davis occupied the evening with a lecture on "Carcinoma of the Large Bowel." The entire lecture was illustrated with lantern slides.

Following the lecture Dr. R. A. Buckner moved that a vote of thanks be extended to Dr. Davis. The motion was seconded and carried unanimously. Dr. Buckner also invited the society to hold the August meeting in Gilman, which invitation was promptly accepted. The company then adjourned to the Dixie Cafe where they enjoyed a most unusual banquet of turtle soup, young squirrel and fried fish.

Eleven members attended.

R. A. BUCKNER,  
Secretary.



## JO DAVIESS COUNTY

The Jo Daviess County Medical Society held their midsummer meeting at Galena, on Thursday afternoon, July 13.

The program was given up wholly to discussions of Public Health. In order to encourage and foster the passing of ordinances throughout the County insuring a better and cleaner milk supply the meeting was held open to the laity.

The society entertained as its guests at the meeting the director of Farm Bureau, members of the Farm Bureau, councilmen and mayor and milk dealers. The society was also honored by a delegation of ladies from Freeport who have been giving their time to County Nurse and Red Cross work.

The meeting was addressed by Dr. Thomas G. Hull, of the Illinois State Board of Health on "Milk and Its Relation to Public Health." Miss Hazel Bratton, County Red Cross School Nurse, gave a summary of her year's work and findings among school children of Jo Daviess County. Dr. D. C. Steelsmith, of Dubuque, Iowa, Director of the Department of Public Health of Dubuque County, gave a very interesting discussion of the organization of a County Health Department.

While the attendance was not all that it should have been, it was nevertheless a fairly representative gathering of people whose opinions are worth while and much good should eventually come from the meeting.

At the business meeting of the society preceding the program a resolution condemning the Shephard-Towner Bill was adopted and ordered put on our records.

R. E. LOGAN,  
Secretary.

## MADISON COUNTY

The Madison County Medical Society met at the home and school of Dr. W. H. C. Smith, at Godfrey on June 2, 1922, President A. F. Kaeser, in the chair.

Thirty-six members, eight visiting physicians and thirty-five lady guests were present.

The minutes of the last meeting were read and approved. On petition of Drs. Reuss and Binney, it was ordered that Mr. G. W. Pufalt, of Granite City, be sent to St. John's Sanitarium at the expense of the society.

On invitation of the superintendent, Dr. C. E. Trovillion, the society voted to hold our July meeting at the Alton State Hospital.

The Community Nurse read her report for May which was received and ordered filed.

Dr. W. H. C. Smith reported progress in the matter of the county sanitarium and announced that the firm of L. Pfeifferberger & Son, architects, of Alton, had been retained to complete permanent plans and supervise construction.

The Committee on Resolutions on the death of Dr. Heber Roberts presented report which was unanimously adopted.

Dr. A. F. Kaeser then presented the president's annual address which called out a spirited discussion.

Echoes of the recent state meeting were given by Drs. Pfeifferberger, Burroughs, Schroeder, Kaeser and Fiegenbaum. Visiting physicians from St. Louis were called upon and each responded by a timely talk which was both entertaining and instructive.

A vote of thanks was given to our president for his address and also to our distinguished visitors for their visit to us and their participation in the program.

Adjourned to meet at the Alton State Hospital on the first Friday in July.

After adjournment elegant refreshments were served by Dr. and Mrs. Smith, for which a vote of thanks was tendered.

### Alton Meeting

Thirty-one members of the Madison County Medical County met at their regular meeting yesterday afternoon at the Alton State Hospital at Alton.

The meeting opened at 2 o'clock and the regular business was transacted. The constitution of the society was amended so as to have all of the meetings in the future in Edwardsville. Previously they have been held in the various cities in Madison county. A resolution was also adopted pledging the members to cooperate in every way with the State Department of Public Health in reporting communicable diseases and especially in the matter of reporting births, still births, and deaths. This was done in order to assist in bringing Illinois into the registration area. Illinois is one of the few states that is as yet not recognized as reporting all of its vital statistics.

Dr. H. E. Middleton of Alton was invited to submit at the next meeting such information about irregular practitioners as he is able to secure. This subject will be made the regular order of that meeting.

Judge George A. Crow was to have been the speaker and had for his subject, "Law and Medicine," but was unable to be present because of presiding in court at Belleville. At the eleventh hour Rev. Thos. Dyke, rector of St. Andrew's Episcopal Church of this city kindly consented to speak in his place, and gave an interesting address on the subject of "The Relation of Religion to Medicine." The address was very highly appreciated by all who heard it and for which he was given a vote of thanks.

Dr. and Mrs. C. E. Trovillion served delicious refreshments at the conclusion of the formal program after which everyone had an opportunity to inspect the institution.

The meeting was altogether one of the most successful that has been held lately and was greatly enjoyed by all who attended.

## OGLE AND LEE COUNTIES

A very successful joint open air meeting and picnic was held by Ogle and Lee County Societies at Lowell Park, Dixon, July 19. The medical societies of the counties of Carroll, Stephenson, Boone, Winnebago, De Kalb, La Salle, Bureau, Jo Daviess, Kane, McHenry and Whiteside were guests of Ogle and Lee societies.

### PROGRAM

1:00 P. M.—Baseball game, Ogle and Lee Counties.

- 2:00 P. M.—"Newer Phases of the Nutrition of Infants," Julius H. Hess, Professor and Head of Department of Pediatrics, University of Illinois, College of Medicine.
- 2:30 P. M.—"The Diagnosis and Treatment of the Common Surgical Diseases of the Abdomen," Malcomb L. Harris, Professor of Surgery, Chicago Polyclinic.
- 3:00 P. M.—"Some of the Lesser Infections," Ernest E. Irons, Associate Professor of Medicine, Rush Medical College.
- 4:00 P. M.—Sports and games.
- 5:00 P. M.—Picnic scramble dinner.  
(Ham, coffee, lemonade and ice cream furnished by the committee)
- 6:00 P. M.—Boating on Rock River.

There was a special afternoon program for the entertainment of the lady guests.

The following committee on arrangements managed the affair: Doctors E. S. Murphy, Dixon; W. E. Kittler, Rochelle; T. F. Dornblaser, Amboy; J. M. Beebe, Oregon; E. B. Owens, Dixon; A. H. Beebe, Stillman Valley; C. C. Kost, Dixon; J. T. Kretsinger, Leaf River; T. O. Edgar, Dixon; J. W. Dale, Ashton, and J. C. Atkins, Forreston.

### PIKE COUNTY

The Pike County Medical Society met in Barry, Ill., July 27, with an attendance of twenty-two physicians.

After the reading and approval of the minutes of the last session, the name of Dr. G. C. Goodwin of New Canton was proposed for membership and will be voted upon at the next regular meeting, the Board of Censors being Drs. Kuntz, Thurman and Smith.

A letter from Dr. Isaac Rawlings, Director of Public Health, was read by the Secretary. This letter was relative to a better cooperation between the Health Board and the physicians in the matter of birth-registration and communicable diseases.

Action was tabled for the present in the matter but will probably be taken up again later on.

The first paper on the program was a case report by Dr. R. O. Smith of Pittsfield. This case was a very unusual one, as a diagnosis of pyosalpinx was made by himself and the writer and later aspi-rated through the vaginal wall, which was bulging, for confirmation of the diagnosis, yielded twenty ounces of water and no pus. This was followed by the rapid improvement of the patient and cure in about ten days. A fever of 1 to 3 degrees above normal had been running for some time. This caused a very animated discussion and one that proved very instructive to all.

Dr. W. W. Williams of Quincy read a thorough and scholarly paper on "Some Facts to Be Remembered in Appendicitis." He covered the ground in a graphic way, stressing the advisability of early operation as soon as a diagnosis can be made. This

was discussed by the majority present and many facts brought out.

Dr. O. L. Zelle of Springfield followed with an able and thoughtful paper on "Etopic-Pregnancy: Diagnosis and Treatment." He gave the clinical history and operative results of a number of his own cases as well as some of the cases of other surgeons.

Dr. H. P. Beirne of Quincy, the District Councilor, followed with "Observations by the Way," in his usual happy vein, calling for more care in diagnosis and more scientific therapy. Society adjourned at 4:45 p. m.

W. E. SHASTID, Secretary.

### Marriages

EDWARD DUDLEY ALLEN to Miss Grace V. Robeson, both of Chicago, June 14.

ROBERT H. BELL to Miss Minnie E. Dilks, both of Carlinville, Ill., June 6.

ALBERT G. PETERS, Pontiac, Ill., to Miss Evelyn Cole of Decatur, Ill., June 17.

LEON S. SEIDLER to Miss Edith Freudenberg, both of Chicago, July 2.

ROY SEXTON to Mrs. Mary Harvey, both of Streator, Ill., July 3.

WALTER H. SPOENEMANN, Chicago, to Miss Carol Stucke of Michigan City, Ind., June 17.

WESLEY RAYMOND WELLS to Miss Flora S. Monroe, both of Lake Forest, Ill., recently.

### Personals

Prof. William E. Quine, dean of the medical faculty of the University of Illinois, was tendered a banquet and reception on the occasion of his visit to Los Angeles last month, by his old students and friends.

At the annual meeting of the Physicians Club, held July 1, the following officers were elected: Secretary, Dr. Frederick C. Test; directors for one year, Dr. Truman W. Brophy, Dr. A. A. Goldsmith, Dr. A. A. O'Neill; and directors for two years, Dr. John E. Rhodes, Dr. Arthur M. Corwin and Dr. Henry T. Byford.

Dr. George B. Hassin, neuropathologist and professor in the University of Illinois Medical College, left July 1 for Russia to aid in relief work of the American Medical Aid Society. Dr. Hassin formerly practiced in Siberia.

At the annual meeting of the Alumni Association of Rush Medical College, held in Chicago

recently, the following officers were elected: President, E. L. Kenyon; vice-presidents, F. B. Moorehead, D. C. Wheritt and T. C. Galloway; treasurer, C. O. Rinder; secretary, C. A. Parker; necrologist, J. F. Waugh, and directors for three years, H. G. Wells and G. H. Coleman.

Dr. Caroline Hedger, medical director of the Elizabeth McCormick Fund, Chicago, has been doing field work for the state college at Pullman, Wash., on behalf of a positive health program for children.

Dr. B. E. LeMaster read a paper on "Use of Radium in Treatment of Cancer" at the regular meeting of the McDonough County Medical Society in the Macomb Clinic rooms, July 11. The society voted to hold a joint meeting with Hancock County Society in October.

Dr. Edwin P. Sloan of Bloomington held a goiter clinic at St. Vincent's Hospital, Taylorville, July 17, in cooperation with the local physicians.

Dr. O. E. Fink of Danville, Ill., has been appointed visiting oculist and aurist to the Danville branch of the National Home for Disabled Volunteer Soldiers.

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## News Notes

—The Sisters of St. Francis of Peoria have recently purchased the Holmes Hospital, Macomb, for \$65,000. The institution will be consolidated with the present St. Francis Hospital.

—Bids will be taken to August 15, on the \$300,000 tuberculosis hospital building to be erected at Edwardsville by the county commissioners.

—The contract has been awarded for an addition to St. John's Hospital, Springfield, at a cost of \$15,000.

The new \$75,000 addition to St. Francis Hospital, Litchfield, has just been completed, and another building will be erected for a power plant and employees' quarters at a cost of \$35,000.

—By the will of Alexander D. Thomson of Duluth, Minn., the sum of \$50,000 is bequeathed to the university for use in the medical department, to be expended under the direction of Dr. Wilbur E. Post and Dr. Herman L. Kretschmer, both of Chicago.

—By the will of Seymour Coman of Chicago, University of Chicago is made trustee of his residuary estate, estimated to be approximately \$145,000, the net income to be used for scientific research, with special reference to preventive medicine and the cause, prevention and cure of diseases. This bequest to be known as the Seymour Coman Research Fund.

—It is reported that Theodore Dilinsky, aged 71, of Houston Avenue, South Chicago, was fined \$50 and costs by Judge Joseph W. Schulman recently, for practicing medicine without a license. Dilinsky attended a 3-year-old child who had been overcome by gas. The child died.

—The John Marshall Browning Hospital, recently completed at DuQuoin, was dedicated, July 20. Dr. Clarence W. East, chief of the division of child hygiene and public health nursing of the state department of public health, delivered the principal address.

—It is reported that Drs. William R. Wesenberg and J. F. Hargan, both of Mound City, recently paid \$10 each and costs for failure to report births. The complaints against the physicians were filed by the local state's attorney at the request of a special agent from the state department of public health.

—The state department of public health announces the completion of a new bulletin setting forth detailed instructions in reference to the medical inspection of school children. The function of the school physician, the place and work of the school nurse and the part that should be played by the teacher, as viewed by the department, are all described. It is felt that the bulletin will be especially helpful to public health officers, school nurses and teachers. Copies may be had after August 15 by persons or organizations in Illinois without cost.

—At a recent meeting of American citizens of Czechoslovak descent in Chicago, plans were made for the erection of a Czechoslovak Hospital. For this purpose, \$30,000 has already been subscribed and a considerably larger sum pledged. The purpose of this institution is to provide physicians and nurses who speak their own language for the Czechoslovakians resident in and around Chicago.

—The town supervisor, assessor and clerk of Berwin organized as a town health board, July 12, passed an ordinance for \$10,000 and pub-

lished notice to the effect that the Public Health District of the Town of Berwin is seeking the services of a Public Health Officer. Said officer must be recommended and certified by the State Department of Public Health.

—Kankakee City physicians held a picnic, July 11, and ran up scores in various games that taxed the local sporting writers' adding machines (or imaginations). One medico swatted the pill and set sail for third base as he figured that it was no further around that way.

—The American Medical Association of Vienna announces the restoration of friendly understandings between their organization and the teaching body of the University of Vienna.

A special committee, elected by the association, after a thorough investigation of the charges of discrimination against Americans, which were reported by members of our association, find that the men, who made the accusations of discrimination were either unable or unwilling to substantiate these charges under oath. Further the courses in question were not so-called book courses and consequently were not under the control of the A. M. A. of Vienna.

"It is the sentiment of this association, that the men of the teaching body of the University of Vienna have suffered by this unjust criticism.

"We further wish to state, that through the efforts of our special committee, working with a like committee from the teaching body, sufficient numbers of book courses in English in all branches may be had at prices of from \$3.00 to \$5.00 per hour for the group, taking such courses."

## Deaths

HIRAM S. CHAPIN, Holder, Ill.; Rush Medical College, Chicago, 1872; died, July 9, aged 73, from chronic arthritis.

JESSE D. DICKINSON, Galva, Ill.; Hahnemann Medical College and Hospital of Chicago, 1874; died, June 10, aged 75, at the Galesburg Cottage Hospital, following an operation.

WILLIAM DILLON, Urbana, Ill.; Medical College of Ohio, Cincinnati, 1882; died, July 4, aged 72, following a long illness.

CHARLES DOUGLAS, Detroit; University of Toronto Faculty of Medicine, Toronto, Ont., Can., 1864; a Fellow A. M. A.; emeritus professor.

JAMES MARCUS EVERETT, De Kalb, Ill.; Rush Medical College, Chicago, 1877; member of the Illinois

State Medical Society; died July 6, aged 69, from interstitial nephritis.

GEORGE M. GLASER, Chicago; Rush Medical College, Chicago, 1892; a Fellow A. M. A.; practitioner in Chicago for nearly thirty years; died, June 26, at St. Luke's Hospital, aged 53, from spinal meningitis, following an operation.

JOSEPH ROY HAWLEY, Chicago; Northwestern University Medical School, Chicago, 1893; a Fellow A. M. A.; died, July 20, aged 50, from chronic nephritis.

CLARA A. HOVEY, Chicago; College of Medicine and Surgery (physiomedical) Chicago, 1903; a Fellow A. M. A.; died, July 16, aged 66, from cerebral hemorrhage.

HARTWELL CARVER HOWARD, Champaign, Ill.; Starling Medical College, Columbus, 1850; former president of the Champaign Medical Society; member of the city council and board of education; at one time president of the board of trade; died, June 5, aged 92.

NILS ALBIN KILLBERG, Chicago; Hahnemann Medical College and Hospital of Chicago, 1918; a Fellow A. M. A.; died, June 20, aged 33, from septic pneumonia.

CHARLES H. LUDWIG, Chicago; Hahnemann Medical College and Hospital of Chicago, 1875; practitioner in Chicago for more than forty years; died, July 7, aged 71, from carcinoma of the rectum.

CLARENCE LLOYD MCNETT, Towanda, Ill.; College of Physicians and Surgeons, Chicago, 1903; was killed June 21, in an automobile accident, aged 43.

RUDOLPH MEYER, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1903; a Fellow A. M. A.; died, April 14, aged 43, from paresis.

WILLIAM H. RAASCH, Chicago; Chicago College of Medicine and Surgery, 1913; a Fellow A. M. A.; died, July 10, aged 35, from nephritis.

WILLIAM M. RICHARDS, Joliet, Ill.; Chicago Medical College, Chicago, 1876; died, June 17, aged 68, at the St. Luke's Hospital, Chicago, from injuries received when he was struck by a street car.

OSCAR B. STAFFORD, La Salle, Ill. (licensed, Illinois, 1877); died, July 6, aged 82, at the People's Hospital, Peru, Ill, following a long illness.

ROBERT STEWART, Chicago; Rush Medical College, Chicago, 1895; on the staff of St. Bernard's Hospital; died, July 13, aged 58, at the Wesley Memorial Hospital, from tumor of the brain.

GEORGE HOWARD WILSON, Mount Carmel, Ill.; University of Louisville Medical Department, Louisville, 1912; a Fellow A. M. A.; served during the World War in the M. C. U. S. Army, with the rank of captain; specialized in radiography; coroner of Wabash County; died, June 19, aged 30, from carcinoma of kidney.

EDWIN OWEN WOODS, Chicago; Rush Medical College, Chicago, 1912; a Fellow A. M. A.; assistant surgeon, U. S. Public Health Service, formerly stationed at Manila, P. I.; died, June 26, aged 37.



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## Original Articles

### THE SYMPTOMATOLOGY OF CHRONIC FATIGUE INTOXICATION.\*

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CHICAGO.

The disease under consideration has never, so far as I have been able to determine, been exhaustively studied or adequately described. It is a general chronic systemic disorder, the result of the gradual accumulation in the tissues of excessive amounts of fatigue material. It manifests itself symptomatically in a deviation from the normal of practically every function of the body in that reaction is out of all proportion to the stimulus acting; by more or less generalized tonic muscular spasm; by an inability on the part of the affected individual to secure physical relaxation or mental repose and by a very characteristic group of physical signs and symptoms. It affects almost exclusively the ambitious, the spirited, and the strong-willed, who from a sense of duty or borne on by their enthusiasm drive their bodies beyond the limit of physical safety and who before they realize it have hyper-saturated their system with fatigue material to such a degree as to make it impossible for the organism to again rid itself unaided of this toxic substance.

This disease is if anything more protean in its manifestations than is lues. Its symptoms may on occasions simulate a great variety of both chronic and acute affections. But this is not all. In addition a patient suffering from this affection may, like a patient suffering from lues, go through a large gammut of varying symptoms during the progress of his illness, symptoms which apparently bear no relation to each other, and which may even on the surface appear contradictory. This peculiarity unquestionably has

had much to do with the tardiness in the unraveling of the whole symptom complex.

The disease under consideration may conveniently be divided into two stages, namely, the acute, early, active, or labile stage and the late, fully developed, chronic, or stabile stage. One of the most characteristic symptoms of this condition is the fact that reaction is always out of proportion to the stimulus acting; and this applies with equal force to physical stimuli and physical reactions, and to emotional stimuli and emotional reactions. In the acute labile stage the resultant reaction is out of all proportion in its intensity, while in the chronic stage the reaction is disproportionately sluggish and feeble.

Some of the first symptoms to appear, and the last to leave, if the patient is put on proper treatment, and in fact the first ones that attracted my attention in the study of this affection some twenty-eight years ago, are dermatographia, urticaria, angio-neurotic-edema and pruritus. Angio-neurotic-edema and urticaria may involve any portion of the body though the former is more apt to involve the exposed surfaces of the body such as the face and hands while the latter is more apt to involve the covered portions of the body.

The pruritis associated with this affection may be localized or general. If the former, it is more likely to affect those portions of the body where the mucous membranes and the skin meet, as the margins of the eye-lids, nose, mouth, anus and genitalia and the palms of the hands and the soles of the feet. I know nothing that is more distressing than a case of general pruritis caused by this affection. In these cases it is practically impossible to find any external cause for the pruritis, and a pruritis which cannot be accounted for by a local cause should immediately make one suspicious of a systemic cause and particularly of this affection.

The skin, particularly on the exposed portions of the body such as the hands and face, may be

\*Read before the Chicago Medical Society, February 8, 1922.

overstretched, thin, shiny, dry, almost lifeless in appearance and ashen gray in color, or blue, moist, cold and clammy, or loose and flabby; sometimes on the cheeks and neck folds of skin form almost simulating whattles; or again the skin is red, florid, hard, dry and swollen; or the complexion may be alternately livid and florid or ashen. If the skin is very dry and lifeless fissures of various depths and varying degrees of severity may develop. These fissures may occur anywhere but are most likely to occur on the hands and feet, about the nares, mouth, arms, groins, genitalia and anus.

On the covered portions of the body the skin is often dry, thickened, roughened and pigmented. One of my patients, a very cleanly, fastidious woman, had skin on her back and sides of chest which in places was fully three-fourths of an inch thick, which felt more like the bark of a tree than skin; in fact, was likened to a grating iron by the patient herself and was so pigmented and black that it looked as though she had not had a bath for weeks and months. In the less severe cases patches of skin are found here and there on the body which are rather difficult to describe. They may vary in size from one or two cm. in diameter to the size of a hand, and even larger, usually more or less circular though sometimes somewhat irregular, sometimes symmetrical and sometimes asymmetrical. If the skin is picked up between the thumb and index finger it is found to be greatly thickened and glossy, almost as though oil could be pressed out of it, always sensitive and often excruciatingly tender.

The subcutaneous areolar tissue is usually the seat of a diffuse edema which infiltrates these structures, separates the skin from the deep fascia and in that way obliterates the normal contour and creases of the body. If this involves the tissues of the face, particularly if associated with thickening of the skin, it often gives the intelligent person a very unintelligent look simulating sometimes the expression of countenance so frequently seen in those habitually indulging in alcoholic liquors to excess; makes the hands look puffy, pudgy and swollen so that the play of the extensor tendons cannot be seen and the normal depressions are obliterated.

Oftentimes there are deposits in the subcutaneous areolar tissues and intermuscular septa

varying in size from a split pea to a black walnut,, rather firm, always sensitive, but during acute exacerbation very painful and excruciatingly tender.

The muscular system is one of the first to be involved and one of the last to get well. Hyper-irritability and spasms of both the voluntary and involuntary muscles are the chief manifestations. The contractions may either be simply fibrillary, or tonic spasms of the whole muscle or muscle group. In the more severe cases the muscles are often in permanent tonic spasm, not even relaxing completely during sleep. In these severe cases the muscles often feel as hard as a board and there is very little difference in their consistency whether at apparent rest or when a voluntary attempt is made at further contraction. In other words, they are always at greater tension than normal.

An individual whose muscles are chronically bilaterally contracted and who cannot relax them and make them flaccid at will is almost sure to be suffering from this condition. A patient in whom the neck muscles are thus involved walks with his neck stiff, the head thrust slightly forward and often a little to one side, with a peculiar shuffling gait which is so characteristic that it can often be diagnosed as he walks into the room. If the larger neck and trunk muscles are involved the patient has difficulty in bending and stooping and if unexpectedly subjected to even a slight push may have great difficulty in recovering his equilibrium. If the tonic spasm involves the facial muscles very characteristic expressions of the face develop. Thus, if the risorius muscles are principally involved the patient often has a chronic grin though he may not feel a particle like laughing. If the corrugator supercillii are principally involved he bears a constant frown and looks as though he were suffering from a chronic frown. If the depressor anguli oris are involved the corners of the mouth are pulled down and he has the expression commonly known as "down in the mouth." If both the last mentioned groups of muscles are simultaneously involved the patient usually looks as though he had just buried his last friend.

The large skeletal muscles often become very tender after long periods of this tonic contraction and patients suffering from this affection almost invariably complain of what they call muscular rheumatism. It is interesting to ob-

serve here that whenever these muscles are thus contracted one can find deposits varying in size from millet seeds to split peas in the tendons of origin and sometimes also in the tendons of insertion of the affected muscles.

The muscles and tendons by all means the most frequently affected are the pectoralis major, trapezius, deltoids, spinal complex, muscles of the fore-arm, and calves of the legs. The latter two often become so hard that it is quite impossible to indent them.

With almost all cases, even in the early ones and always in the late ones, there is some joint involvement which is very characteristic. The joints involved are usually irregularly enlarged, often the swelling is in lumps. Later in the disease the swelling may be more diffuse, but on careful inquiry it is usually possible to elicit the information that the swelling began at one point and remained localized for a considerable time before becoming general. The involvements seem to be confined entirely to the periarticular structures, namely tendons, ligaments and capsules. The most typical and easily studied joints of this kind are the smaller joints, the type now generally called Heberden's nodes, which Heberden described under the heading "Digitorum Nodi."

The tonic spasm of the skeletal muscles associated with these joint involvements results in very decided limitation in motion.

The gastro-intestinal symptoms are the most distressing and are often the ones which bring the patient to the physician. In severe cases the lips are red, dry, parched, cracked and covered with herpes. The tongue is usually red and beefy at the borders, sometimes fissured, and even in the mildest cases the dorsum is always covered with a thin white fur which in severe cases may become a thick velvety coat, which has the peculiarity that it practically always retains its white color, no matter how thick it may be. This is well as the rarity of pyorrhea I am inclined to ascribe to the hyperacid condition of the mouth and stomach which is so usual in this condition and in some cases so pronounced as to actually cause serration and eburnation of the teeth. In the early cases the gums are often swollen, spongy, and bleeding, while in the later stages they are often receding. Pyorrhea is surprisingly rare. The tongue and mucous membrane of the cheeks are often the seat of recur-

rent attacks of canker sores which do not respond to any form of local treatment, are often very painful and because of the interference with mastication may actually impair the nutrition of the patient. Mouth, tongue and pharynx are often very dry, red and congested, which causes a sensation of dryness and even burning of these parts as well as of the gullet, and which in two of my cases was so distressing that it awakened the patients during the night, keeping them awake for hours. In some cases hypersecretion takes the place of dryness and manifests itself in an increased flow of saliva which in one of my cases resulted in long strings of mucus being pulled out of the mouth by the patient with her handkerchief for hours at a time.

The muscle spasm already referred to may involve the constrictors of the pharynx, resulting in spasm of the gullet, sometimes making swallowing very difficult, or it may involve the circular muscles of the lower end of the esophagus and result in a true cardiospasm. In the stomach proper the disease may manifest itself by marked hyperacidity and again in antacidity with all the symptoms accompanying either of these conditions so that regurgitation of sour water, eructations of gas, sometimes in enormous quantities and with much noise may occur; burning pain in the stomach and esophagus, distension of the stomach with gas, nausea, and often very severe gagging and retching though rarely vomiting may be prominent symptoms. There may also be a very pronounced pylorospasm and an actual hypertrophy of the pyloric sphincter, as observed in two cases operated upon by myself, where organic stricture had been wrongly diagnosed and only a pylorospasm with hypertrophy of the pyloric sphincter was discovered at the operation. As the result of this hyperacidity, dilation of the stomach and spasm of the hypertrophic pyloric sphincter, the emptying time is sometimes markedly prolonged. Thus one of these cases showed undigested food in the stomach washings twelve hours after the ingestion of an ordinary meal.

In quite a number of these patients we find marked gaseous distension of the intestines with much flatulence and the repeated expulsion of foul smelling flatus, alternate looseness and constipation of the bowels. When loose, the bowels are apt to be pasty, frothy, of foul odor, very acid and hence irritating to the rectum and anus.



The genito-urinary symptoms are not very numerous but when present are quite characteristic and sometimes very distressing. In nearly all cases, and particularly the severe ones, urine is very acid and sometimes causes considerable burning and tenesmus when it is being voided. As a general rule the urinations are increased in frequency and nocturia even up to a dozen times a night is one of the most annoying symptoms.

The respiratory tract is unusually sensitive to irritation, the patient suffering sometimes from severe dryness and again from profuse secretions. In the later stages some of these patients suffer from a very peculiar and yet very characteristic alteration in respiration. Such a patient while sitting quietly will be observed to have a very definite respiratory cycle. At first the respirations are very shallow and moderately increased in rate and after ten or twelve of these short, somewhat accelerated respirations the patient will pull himself together, apparently making a voluntary effort, take two or three very deep, slow respirations and in extreme cases end up with a sighing respiration. In fact, he breathes just exactly as horses with heaves do.

In the milder cases the circulatory system does not show any characteristic changes, while in the severer cases the variation from the normal is usually quite pronounced. In these latter cases the heart rate at rest is usually a little higher than that found in the average ambulatory patient. In addition after a very short period of strenuous exercise the heart rate will increase more rapidly than it does normally and the rapidity of its increase will depend largely upon the severity of the condition. The blood pressure is sometimes slightly below, more usually normal and again slightly increased and occasionally very greatly increased.

The blood count averages about as does the blood count in the average patient consulting a physician in his office, with the following two exceptions; namely, that most of the severe cases have a rather low leukocyte count and nearly all of the severe cases have a relatively high eosinophile count and often a true eosinophilia. Thus one of my severest cases had a leukocyte count of 3,600 per c.c. with fifteen per cent. of eosinophiles, or 540 eosinophiles to the c.c.

These patients are exceedingly sensitive to even the slightest variation from the normal because the range of normal reaction to stimuli of

all kinds is greatly reduced. Thus a stimulus that would produce a normal reaction in the average person may either have a greatly exaggerated effect or relatively slight effect and in extreme cases no effect at all, depending upon the severity of the disease. The first result is likely to occur in the earlier stages, the second during the moderately advanced and the third during the severe terminal stage.

Physiologists tell us, what we all know if we reflect at all, namely, that healthy voluntary muscles are always slightly contracted, just enough to take out the slack. This is spoken of as normal muscle tonus. In this disease, however, this normal tonus is accentuated and the muscle passes beyond the power of relaxation either because of irritation of the spinal centers by the toxins circulating in the blood or possibly because of reflex irritation caused by the deposits in the tendons of the individual muscles. Or again both factors may be active. This tonic contraction if it involves many or all of the muscles and persists for long periods of time is necessarily very exhausting. And in the later stages some of these people actually do suffer severely from this condition. The exhaustion sometimes becomes so severe that every muscular effort becomes not only almost impossible but excessively painful so that even the weight of the affected extremity becomes almost unbearable. One of my patients, one of our very best nurses, who had for years driven herself to the very extreme limit of her endurance, told me when she finally broke down that she wished she could unhook her arms so that she might get a little relief from the distressing exhaustion.

As the disease progresses the margin of endurance becomes narrower and narrower until the slightest exertion causes complete exhaustion, often accompanied with excruciating pain.

Because of this severe muscular exhaustion finer co-ordination often becomes very difficult and such an individual in his walk and other voluntary motions because of this inco-ordination and lack of muscle stability, reminds one of the runner who is going on his second wind and swaying constantly in his forward motion.

The patellar reflexes in most cases are apparently normal. In early acute cases they may be markedly exaggerated while in the late terminal cases they may be sluggish or entirely absent.

The vasomotor symptoms are quite characteris-



tic. In the early acute cases there is a rapid alternate dilatation and constriction of the vessels even on very minute physical or emotional stimulation. In the later stages we get very characteristic symptoms of extreme vasomotor irritation or vasodilator paralysis when the complexion becomes an ashen grey, and in other cases extreme vasomotor paralysis when the patient becomes chronically florid.

These patients are unable to adjust themselves to even slight differences in temperature. Thus a temperature slightly colder or warmer than they are accustomed to often makes them very uncomfortable.

The sensory disturbances are varied, sometimes moderate and sometimes extreme, consisting of numbness, tingling, tenseness of the skin, burning and often severe itching, the burning being particularly annoying across the back, on the palms of the hands and the soles of the feet. There may be hyperalgesia and hyperesthesia present, and most of them complain a great deal of tingling and numbness of the extremities and say the limbs are constantly going to sleep. If the sensory nerves are subject to pressure by the above described deposits the sensory disturbances are very marked, in fact neuritis is one of the most frequent and distressing symptoms of this affection. The neuritis may be general, multiple or single. All of the sensory nerves may be affected.

The organs of special sense are often affected. With taste the two most common complaints are, being annoyed either by a metallic taste or a sweetish taste. The sense of smell is sometimes somewhat impaired by the chronic congestion of the Snyderian membrane or the excessive dryness of the nose.

The hearing is sometimes markedly affected. Some find the slightest noise distressing, after a short time all music trying, even the best, and discords in music actually painful. In the early stages the hearing may be hypersensitive so that a patient notices and is annoyed by sounds which would not even be heard by the normal person. Later the hearing often suffers severely and I am rather inclined to believe that some at least of the progressive deafness which we see so commonly as age advances is due to this condition.

In the eyes the following symptoms have been noticed: the palpebral borders are often markedly irritated and reddened and some of these

patients chronically appear as though they had not had enough sleep—much like the man who has been out the night before. The eyelids and the conjunctiva are sometimes markedly congested and swollen, occasionally slightly fissured. Sometimes in extreme cases there exists a presenile arcus senilis and irregular pigmentation of the iris. The sclera quite often is sub-icteric. In the early cases the pupils are apt to be very large and react to light more quickly than normal. In the later cases they are often very small, almost rigid, and react very slowly to light and accommodation though I have never observed any irregularity of the pupil. These patients often suffer much annoyance from spasm of the ciliary muscles.

Extreme irritability is one of the most constant symptoms in the severe cases and one of the earliest manifestations of the disease and appears in many forms. Thus, these people are, without exception, excessively sensitive to all emotional influences and an innocent, unoffending remark by a friend may be misconstrued and taken up as a slight and result in a flood of tears, or the same remark may be construed as an insult and result in an outburst of rage. This irritability manifests itself on the slightest variation from the usual or normal and extremes becomes distressing to the patient.

In the earlier stages, the irritative labile stage, the patient is trying to go faster and faster. One of my patients expressed it in the following manner: "When riding in a street car, in an automobile, or even a train, no matter how fast it goes I feel like getting out and pushing." This tendency to speed up manifests itself in other ways. During the early stages of the disease these persons are able to and often do turn out a prodigious amount of work, but when the speed exceeds a certain limit and the exhaustion reaches a certain point, the quality of the work begins to deteriorate, gradually gets poorer and poorer until it no longer can pass inspection, and when this point is reached the quantity of output rapidly decreases until eventually all work is impossible.

Nearly all of these patients suffer to a certain extent from restlessness in their sleep, dreaming much and particularly going through difficult tasks such as climbing mountains, carrying heavy burdens, etc., and waking up in the morn-

ing utterly exhausted. With quite a number insomnia becomes a serious matter.

Headache is a common symptom. It may be frontal, temporal or occipital, or more often just a feeling of fullness and constriction in the head.

Practically all of these patients show defective emotional reaction and control, probably best expressed by the word extreme. Thus they are apt to be either over-cautious or reckless, timid or foolhardy, shy or over-confident, extremely reserved or obnoxiously bold, mushy or stubborn, over-credulous or over-suspicious, intemperate or ascetic, stingy or extravagant, haughty or servile, taciturn or garrulous, and only too often such an individual behaves like an over-tired, peevish child. They are apt to be excessively vain and hence subject to flattery, often stubbornly adamant to the good advice of their best friends and liable to do anything and everything to their own detriment in the hands of designing flatterers. Many of them suffer from abnormal humility and self-depreciation and again others from an exaggerated ego, over-estimating their own importance to society, the quality of their work, and even the value of their possession; constantly bragging about themselves and always dealing in superlatives and gross exaggerations. When this state of mind, which I have sometimes felt like calling "*caput magnum malignum*," is associated with another symptom which I have sometimes called "*limelightitis*," is acquired late in life, it is almost always a part of the condition under consideration and if other symptoms of this disease are found is rather conclusive evidence that the disease is far advanced.

The sloven, the laggard, the phlegmatic and the weak-willed are rarely ever affected. It attacks the finest type of men and women, usually in middle life, greatly shortens their period of usefulness and their enjoyment of life, leaves them partial wrecks or complete derelicts just at a time when their experience and mature judgment would make them especially useful to the community, state and nation; wracks their later years with pain and suffering and robs the aged of the peace and serenity to which those who have faithfully served their fellow men are justly entitled.

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## THE DIAGNOSIS OF FOREIGN BODIES IN THE BRONCHI\*

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My object is not to endeavor to discuss all the phases of this subject to bring before you certain points in the symptoms and signs which bear particularly on the diagnosis of foreign bodies in the bronchi. You may regard the subject as belonging to the curiosities of medicine rather than to every day work, but there are many cases of foreign bodies in the bronchi which are unrecognized and no one knows when he may meet a case. The number of patients who have carried a foreign body for years without any suspicion of the fact is a proof of the frequency with which they are missed. A great deal of gratitude is due Chevalier Jackson both from patients and from members of the profession. He has saved many patients and instructed us on a subject of which we knew little.

First in the question of diagnosis is the need of having the possibility of a foreign body in a bronchus in mind in the investigation of every puzzling case of respiratory disorder. If this is done and the matter considered it is evident that the chances of correct diagnosis are increased. If it is not thought of, only some additional evidence, such as from an x-ray examination, may set us right, but this only in the case of foreign bodies which show on an x-ray plate. Probably 15 per cent. of all foreign bodies do not, and it is for the recognition of these that the study of symptoms and signs is so important.

*History.* It is striking in going over the histories, especially in the cases of long duration, to note how little attention was paid to this in some instances. For example, one child insisted that she had aspirated a foreign body but no one paid any attention to her story. A recurring cough received little attention until it became almost constant many years later suggested an x-ray examination, which proved the truth of her statement. This inattention is perhaps partly due to the lack of recognition of the fact that a foreign body may be aspirated into the larynx with comparatively little distress or disturbance. There are numerous instances in adults in which

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they knew what had occurred and were able to give an account of the symptoms, which may not be severe. In other cases there is not the least suggestion in the history which gives any clue as to the time of the aspiration. In young children there may be no possibility of getting any history if the child was alone at the time of the aspiration. Careful inquiry may give a clue and in the case of the most deadly of all foreign bodies—the peanut—it is often possible to find that the child had been given or obtained a peanut. Evidently a history of cough dating from the extraction of teeth under anesthesia is significant.

*Symptoms.* These must vary with the character of the foreign body and all grades from slight discomfort with some cough to symptoms of great severity may result. A safety-pin in a bronchus may give few symptoms, but a seed or a nut in the trachea or a peanut in a large bronchus may cause the most acute respiratory distress. There are all variations from slight discomfort to the most severe dyspnea. At the time of and shortly after aspiration there may be discomfort or pain and paroxysms of cough. These may be of short duration if the object passes into a bronchus, but should it remain in the trachea varying grades of obstruction occur and consequently varying symptoms. It is convenient to separate the symptoms of what may be termed acute cases from those of longer duration, which may be called chronic. The symptoms in acute cases may be largely mechanical due to marked obstruction in the larynx and trachea or to irritation set up by the foreign body with resulting swelling and obstruction. The mechanical symptoms require no discussion as their nature is evident. The symptoms due to irritation are shown in the peanut cases in which a most intense purulent laryngo-tracheo-bronchitis results. Here the picture is of an acute respiratory tract inflammation with dyspnea and distress.

In the chronic cases the symptoms are such as result from a local lesion which may irritate a bronchus or partially or completely plug it. Cough is variable, slight or marked, constant or paroxysmal, depending on the condition. Should abscess or bronchiectasis result the usual symptoms result. Pain is not necessarily prominent but may be fairly marked.

*General Features.* These evidently will vary

with the character of the foreign body, the changes it has produced and the complications. A safety-pin may give no general features while an object which plugs a bronchus may be accompanied by infection or bronchiectasis followed by abscess. Hence there is no one description which can be given. What may be termed the very acute cases—as from the aspiration of a peanut—show the picture of a very intense toxemia with features suggestive of a general acute respiratory tract infection. The cases in which a body is aspirated but does not plug a bronchus may give very little in the way of general disturbance. Chronic cases show features dependent largely on the secondary changes, such as purulent bronchitis, abscess and bronchiectasis.

*Fever.* This is frequent and may show many variations. An irregular curve is common both in acute and chronic cases. In the latter the curve is that of sepsis with frequently a large excursion in the twenty-four hours.

*Dyspnea.* In the acute cases this is extreme and may suggest laryngeal diphtheria, a probable error as there may be considerable laryngeal obstruction. The height of the fever is against this diagnosis. In the less acute cases there may be dyspnea only on exertion or movement. In children the act of crying or a change in position may bring on dyspnea.

*Cyanosis.* This may be extreme in the acute cases but is rarely marked otherwise.

*Clubbed Fingers.* This is a common change in long continued cases but differs in no way from that due to any chronic thoracic septic process.

*Growth.* In children with a foreign body present for some time there may be marked interference with growth. In such cases there is usually septic absorption.

The physical signs which are most important may be summarized as follows:

1. *Inspection.* In every case seen by me there has been definite diminished expansion on the affected side. If the foreign body has shifted from one side to the other or is situated at the bifurcation of the trachea the expansion may be decreased on both sides. In some cases in which the foreign body was a pin, decreased expansion was the only sign. If the foreign body has acted as a ball valve and allowed air to enter but not to escape, the affected part of the lung will be distended and that part of the thorax be



fuller—but the expansion is less. The extent of movement of the diaphragm is important to note.

2. *Palpation.* The vocal fremitus varies with the condition present. If a bronchus is completely plugged, vibrations will be absent over the supplied portion of lung. If the closure is intermittent the vibrations may be absent at one time and present at another. If the bronchus is partially obstructed there may be a decrease in the vibrations. In young children it may not be possible to gain much information from the study of the fremitus.

3. *Percussion.* Evidently the findings must vary greatly. With a ball valve action of the foreign body the affected portion of the lung becomes markedly emphysematous and hence yields hyperresonance or tympany. With complete plugging of a bronchus there will be flatness over the affected portion of the lung as soon as all the contained air is absorbed. If the plugging is not constant there may be some resonance at one time and none at another but there is usually some grade of dullness. The sense of resistance will vary with the condition present. With collapse of a portion of lung there is likely to be tympany for a time. There may be varying grades of combinations of dullness and tympany, especially in children, in whom hyperresonance and tympany are common. These are often very confusing but a careful comparison with the note elsewhere will usually lessen the difficulty.

4. *Auscultation.* The most diverse findings are to be expected and the signs may vary from hour to hour if the bronchus is not completely plugged. The degree of collapse of the lung, the amount of contained air and fluid, the extent of fibroid change, the presence of abscess or bronchiectasis, all influence the signs. Over a lobe, the bronchus of which is completely plugged, as a rule the breath sounds are absent but occasionally, and especially in children, distant breath sounds may be heard. Over the portion of lung supplied by a partially obstructed bronchus the breath sounds are harsh and rough with prolonged respiration, accompanied by many rales, usually coarse, sometimes bubbling and with both inspiration and expiration. Over other parts of the lung of the affected side and on the other side the findings depend on the amount of irritation set up and the presence of

secretion. Rales may be heard everywhere in the acute cases.

There are several special points worthy of notice.

1. With some foreign bodies in the trachea, such as a melon seed, there may be very curious sounds produced, quite unlike other sounds connected with the respiratory tract, and very suggestive of the diagnosis. These sounds have a flapping quality.

2. In some cases in which there was a small metallic foreign body in a bronchus, not sufficiently large to cause any marked obstruction, very fine rales of a curious character have been heard. These have been described as "tissue-paper" rales, and are such as might be produced by the movement of the finest grade of tissue paper. They have been heard at the end of inspiration and are much finer than the fine crepitations heard at the early stages of lobar pneumonia. On a hasty or careless examination they are so fine that they would not be heard. I have never heard similar rales in any other condition. Naturally one hesitates to say that these are absolutely peculiar to a small metallic foreign body.

3. The "asthmatoïd wheeze". This is a sign of considerable value if present but no weight should be placed on its absence in excluding foreign body. This is a wheezing sound which may be heard usually close to the open mouth of the patient, either by listening with the ear or sometimes if the bell of the stethoscope is held close to the mouth. It is usually brought out best by having the patient make a forced expiration. The wheeze varies a great deal in loudness; sometimes it can be heard at a considerable distance from the patient. If present is usually most marked during expirations.

There are certain occurrences which may modify the clinical features and cause difficulty in diagnosis. Among these are:

1. *Change in position of the foreign body.* If the object has been on one side for a time and then is dislodged, reaches the trachea and goes down a bronchus of the other lung a very puzzling set of signs results. A foreign body may be dislodged, reach the trachea and then be caught at the bifurcation, giving rise to signs on both sides. In the absence of any history of a foreign body the diagnosis may be very diffi-



cult for some days as signs persist on the side first involved.

2. *Symptoms due to secretions.* Evidently these may reach other bronchi than the one affected to be carried over to the bronchi of the opposite side. The signs of a foreign body are found on the affected side and those of a varying degree of bronchitis in other lobes or in the other lung. Difficulty may come from a foreign body in the esophagus causing secretion which is carried up and passes into the trachea, usually setting up a diffuse bronchitis.

3. *Previous bronchoscopy.* If this has not been skilfully done there may be considerable trauma and when the patient is seen later it may be difficult to say which signs are due to it and how much to a possible foreign body. I have seen recently two patients with Dr. Jackson in whom bronchoscopy (done elsewhere) had caused severe trauma and in whom we were never able to find any evidence of a foreign body. In both these cases the foreign body was supposed to be a substance which would not show in the x-ray plate. The chief aid in diagnosis in these cases is in waiting until the symptoms and signs due to the bronchoscopy have had time to disappear.

Rare accidents may give very complicated pictures. Following bronchoscopy (done elsewhere) pneumothorax occurred on the affected side. As this foreign body was one which did not show in the x-ray plate, the difficulties of diagnosis are evident. Even before the air was absorbed it was possible to be fairly sure of the condition by x-ray study.

Mention should be made of special groups of cases in which the diagnosis is most often missed.

*Arachidic Bronchitis.* Drs. Jackson and Spencer have used this term to designate bronchitis which follows the aspiration of a nut, especially a peanut. The severity of the symptoms is in direct ratio to the age. It is a very severe and dangerous condition in young children, which may be mistaken for laryngeal diphtheria, infective laryngo-tracheitis (from some cause other than a foreign body) or broncho-pneumonia. The absence of breath sounds over a lower lobe has led to the diagnosis of empyema. The children are usually very ill, showing dyspnea and restlessness, often extreme toxemia, cyanosis, severe cough, sometimes paroxysmal, and possibly a pink tenacious purulent sputum

if the child is old enough to expectorate. The picture is suggestive of a very severe broncho-pneumonia, often with evidence of laryngeal obstruction due to the local swelling. The signs of obstructed inspiration may be marked. In some cases the cyanosis is succeeded by pallor suggesting circulatory failure. The "athmatoid wheeze" is often present. There is high irregular fever with a rapid pulse and respiration rate. The thorax shows asymmetry, as the affected side is often over-distended but it shows less respiratory movement. Percussion over the affected side may show hyperresonance or tympany if the lung is over-filled with air (ball-valve action). On auscultation the breath and voice sounds are decreased or absent over the affected lung. Many rales, usually loud and coarse, sonorous and sibilant are heard, and they may be equally numerous and loud on both sides.

The diagnosis of *broncho-pneumonia* may be suggested but the evidence of involvement of one lobe or one lung, the absence of dullness, the breath sounds being harsh but not tubular, and the absence of fine rales should prevent this mistake. From *laryngeal diphtheria*, the high fever, the negative bacteriological examination, the fact that the voice is not lost and the presence of local signs in one lobe or lung should assist. When there are marked signs in a lower lobe, due to the bronchus being plugged, the diagnosis of *empyema* has been made but the signs elsewhere, the absence of the resistance so characteristic of empyema, the area of dullness (corresponding to a lobe) and an x-ray study should prevent this error. The use of the needle should rarely be necessary. *Infective laryngo-tracheitis* may cause difficulty but the absence of any local signs pointing to the involvement of one lobe or one lung should soon settle this question. Emphasis is laid on the value of inspection as showing local change.

Some of the cases in which seeds have been aspirated give great difficulty. If they plug a bronchus there should be comparatively little difficulty, but a small seed or a small portion of a nut may only partially obstruct. An example is under observation at the time of writing. A child aged 27 months aspirated portions of an almond nut. Dr. Jackson removed one portion from the bifurcation of the trachea and another from the left main bronchus. There was a very intense laryngo-tracheitis which required

tracheotomy the next day. Fever has continued with the expulsion at times of a very foul material from the tube. A week later the child showed less expansion of the lower right thorax, with varying degrees of percussion note and loudness of breath sounds. Does this mean that a small portion of the nut is in the lower right lobe bronchus? If so, it does not plug it entirely. Or are these signs due perhaps to secretions which gravitate to the lowest part and more on the right side? (The subsequent course suggests the latter explanation.)

*Chronic cases.* In these the foreign body usually plugs a lower lobe bronchus. The signs are usually clear—the bronchus is plugged. Two errors are common, a diagnosis of empyema or tuberculosis. Sometimes an abscess or bronchiectasis may be recognized but the foreign body is overlooked. The diagnosis of *empyema* should be excluded by the area of dulness, the resistance over which is not that of fluid, the use of the needle and an x-ray study. As to *tuberculosis*, there is no excuse for this error. It is very rare to have a basal tuberculous lesion without apical involvement and a diagnosis of *chronic tuberculosis* without tubercle bacilli in the sputum is to be looked on with great suspicion. If abscess or bronchiectasis is recognized, only the thought of a foreign body as a possible cause may clear the matter. The error for which there would be more excuse than any other is thickened pleura but apparently this is rarely made. The greater error of diagnosing empyema is the more common one. There may be some thickening of the pleura over the affected lobe.

It is evident that the diagnosis must be much more difficult in the case of foreign bodies which do not show in the x-ray plate. This emphasizes the value of careful study of the signs in cases which do not show so that the knowledge gained can be applied to the other group. In some cases also the signs may suggest the need of an x-ray plate. One phase of the x-ray study is of interest as a result of the study of Dr. Jackson's patients and I hope that Dr. Manges will not mind my mentioning it. Dr. Manges can diagnose the presence and position of a foreign body which does not show in the x-ray study about as accurately as one which does. This has resulted from a careful study of all cases with special attention to the changes in the lung. We should try to do the same by means of physical

signs. No better example of the value of this can be shown than by the recognition of a small portion of a foreign body remaining after the main part has been removed. This occurs, for example, when several pieces of a nut have been aspirated. The larger portion or portions may be removed and a smaller piece remain.

In conclusion, remember the possibility of a foreign body in every case of doubtful respiratory tract diagnosis—and also in what may seem to be a perfectly clear case. Study the physical signs carefully over and over again. Watch carefully from day to day and remember that rule of thumb methods are not sufficient—the signs in each patient must be carefully observed and then studied. If we remember that the presence of a foreign body has to be excluded, our mistakes will be reduced to a minimum.

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#### A REPORT OF DEEP X-RAY THERAPY AS PRACTICED IN GERMANY

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It can be stated positively that x-ray therapy of cancer as practiced in Germany during the past eight years differs essentially from that practiced in America during the same time and as the result of a long series of carefully worked out experiments and studies in physics and biology followed by clinical application a new science has been developed; a science as important in the advancement of medical practice as immuno-therapy or chemo-therapy.

Ever since Nicholas Senn in 1902 reported the disappearance of leukemic tumors following the application of the x-rays of those days, x-ray therapy has been able to produce an occasional astonishing result, but outside of skin lesions, there has been nothing consistent in the results achieved. I am convinced that with these more exact, more direct methods it is possible to achieve consistently uniform results not only on the skin but in deep-seated lesions previously beyond the reach of the x-ray.

This has been made possible by the development of Roentgen therapy along two lines, 1. the development of more penetrating rays, 2. the perfection of methods of measurement of dosage, the latter being even more important than the former.

The higher penetration of the x-rays has been achieved by activating x-ray tubes at a considerably higher voltage as it has been found that the higher the voltage the shorter the wave length, the shorter the wave length the more penetrating the ray.

These more penetrating x-rays of short wave length are separated from the "softer" or less penetrating x-ray (those that are ordinarily absorbed by the skin and superficial layers of tissue) by a high degree of filtration. Instead of filtering through three to five millimeters of aluminum, a very light metal, the filtration as at present used is one millimeter of copper or its equivalent. By this filtration the only rays utilized have a very short wave length, or high penetration, and from twenty to forty-five per cent. of the dose delivered on the skin will penetrate to a depth of ten c. m. below the surface, depending upon the size of the area radiated, the distance of the tube from the skin surface and a number of other factors.

In the past, the usual method of measuring x-ray dosage has been by the so-called "milli-ampere minute" method; that is, by stating the amount of current passing through the x-ray tube for a given number of minutes. No attempt was made to indicate the quality of x-ray used. Photographic methods were also employed but were found so inaccurate that they were of little value and have been largely discarded.

The newer methods of measurement as developed by Professor Friedrich at the University of Freiburg and Professor Dessauer at the University of Frankfurt utilized the property of the x-ray to ionize the air. By allowing the x-ray to act upon a given volume of air for a given length of time a certain amount of ionizing effect is produced; the ionized air permits a certain amount of electric current to pass and this effect can be measured by an electroscope. By years of careful study and experiment they have been able to develop instruments that are scientifically exact, easily manipulated and while delicate are still sufficiently rigid to be used in clinical work and an accurate determination can be made of not only the quantity of x-ray utilized but its quality as well. This means that at last, we can measure x-ray dosage on the surface and in the depth and this makes the scientific application of this valuable therapeutic agent possible.

The desired result in x-ray or any other treat-

ment of cancer, be it medical, surgical or radiological, is to produce the maximum damaging effect upon the malignant growth with minimum damage to the healthy tissues and the patient's general condition.

The tissues of the body differ widely in their susceptibility to radiation. In general it may be stated that the more highly differentiated the tissue, the less susceptible, for example, the cells of the liver, kidney or brain are less susceptible than the cells of the skin, mucous membranes, blood or lymph glands. The cells of pathological growths being less highly differentiated are, in general, more susceptible to x-rays than are normal tissues. This fact is utilized in the radiation treatment of cancer. However, simple as the general statement may seem, the application is extremely complicated when applied to growths in the interior of the body.

From twenty to forty-five per cent. of the dosage applied to the skin—with a voltage of 200,000 and filter of one m. m. copper or its equivalent—will penetrate ten c. m.. The dosage required to affect a cancer is from ninety to one hundred and ten per cent. of the amount that will produce an erythema of the skin. Therefore, to avoid burning the skin the tumor must be reached through several different skin areas or "portals of entry" by crossfire with a summation of effect upon the tumor inside the body equivalent to ninety to one hundred and ten per cent. of the skin erythema dose. The dosage must be applied evenly throughout the tumor area—too much in one place will produce serious tissue necrosis, too little in another part of the tumor instead of damaging the tumor cells will stimulate them to increased activity. Also, while the tumor is being treated, its relation to healthy tissues and vital organs must be considered. In treating the stomach the adrenals may be seriously damaged, in treating the esophagus the heart must be protected, etc. In addition to this the general condition of the patients must be guarded—"Roentgen sickness" may be a very serious complication.

The margin of safety between the lethal dose for the carcinoma cell and the damaging dose to healthy tissues and the patient's general condition is not great and unless the treatment is carefully planned and executed little good and great harm may be done from either over dosage, under dosage or uneven distribution of dosage.



For this reason every x-ray machine used should be of sufficient size to deliver penetrating x-rays—a voltage of at least two hundred thousand at the tube, every machine and every tube should be carefully calibrated to determine exactly what it will deliver. Every patient should be treated individually depending upon his size, thickness, location of the tumor in the body, relation of tumor to normal tissues, and organs, size of tumor and the histological character. The general condition of the patient should also be considered and if anemic he should have the advantage of arsenic treatment—atoxyl (Blumenthal)—or blood transfusion—(Warnekros) before and after the Roentgen application.

If these factors are all carefully considered; if the capacity of the x-ray machine and tube are known; if time, distance, size and location of "ports of entry" are plotted and charted on basis of penetration as determined by Dessauer's charts, uniform and consistently good results may be expected—not a high percentage of permanent cures, but far better than anything we have had in the past. As Professor Blumenthal, Director of the Cancer Research Institute, University of Berlin, has said, "We are a long way from solving the cancer problem, but cancer is no longer the hopeless thing that it was."

#### RESULTS

The most striking example of uniform success with deep therapy is seen in cancer of the uterus. This is because the uterus itself is an organ that is not vital, there are no other organs in its immediate vicinity that are likely to be seriously damaged by a dose of x-ray that is lethal for cancer cells and the uterus is centrally located and can be reached from all sides. Most cases which I have seen in Germany are treated with radium and x-ray both. The difficulty of radium treatment alone is in reaching the glandular involvements in the broad ligaments and sacral lymph nodes.

The futility of radium treatment alone is shown by the following statistics from Hartman on one hundred cases of carcinoma of the uterus living at the end of:

First year .....	53
Second year .....	17
Third year .....	13
Fourth year .....	0

By using the x-ray in addition to radium from front, back and the sides the entire pelvis can be successfully and uniformly radiated.

Doderlein has not operated on a case of cancer of the uterus during the past eight years and of cases treated between the years 1913-1916 he has recently made the following report based on five-year cures:

Cases ordinarily considered operable.....	77	Cured 48%
Cases ordinarily considered borderline.....	90	Cured 20%
Cases ordinarily considered inoperable ....	214	Cured 6%

Beclere of Paris reports sixty per cent. cures in operable cases, and twenty-three per cent. cures in the border-line and inoperable cases.

These statistics certainly speak for themselves.

The fact that at a number of the most important clinics in Europe radiation has supplemented surgery in cancer of the uterus is convincing—the primary operative mortality of twenty-five per cent. is eliminated and the permanent results from radiation are just as good or better than those from surgery alone.

*Cancer of the Breast.*—Next to cancer of the uterus the most important field for radiation therapy is in cancer of the breast.<sup>1</sup> The treatment usually consists of a combination of radiation and surgery. The breast amputation can usually be done quickly, completely and with a low operative mortality but in spite of this the number of recurrences with surgery alone is surprisingly high.

Blumenthal of the University of Berlin, Institute for Cancer Research, states that over fifty per cent. of their operative cases had recurrences. This he considers high, but remarks that the class of cases coming to such an institute are not as favorable as those coming to the usual surgical clinic. However, Techy (Payer) Marburg (Leipzig), Anschütz (Kiel), Muller (Rostock), state their permanent cures are only between forty-five and sixty-five per cent. for surgery of the breast.

Holfelder, University of Frankfurt, states that in one hundred cases of breast carcinoma in which radiation was used in conjunction with surgery during the past two years only two recurrences have occurred. He considers the best technic as follows: 1, radiation; 2, operation—total amputation; 3, radiation immediately after amputation, then one-quarter, one-half and three-quarters of a year after operation.

Perthes states that he has had only twenty-six per cent. permanent cures following operation combined with radiation. His opponents state that his radiation has been too weak and that,

<sup>1</sup>Cited by Provost, Press Med., Feb. 1, 1922.



in fact, he has been supplying stimulating doses.

It is the consensus of opinion in Europe, as in America, that while radiation does not absolutely protect against recurrence in carcinoma of the breast it has a very definite prophylactic value and that with its use the life period can be materially lengthened.

*Cancer of the Gastro-Intestinal Tract.*—Cancer of the rectum, sigmoid and colon are not favorable cases for treatment. The colon and sigmoid are more favorable than the rectum. However, it is felt that while sufficient statistics are not available, the results from radiation and operation are better than from operation alone, that while an occasional brilliant result may be achieved by either radiation or surgery the best results are achieved by using both agencies, and even with both agencies used to their utmost the permanent results are few. However, temporary relief and prolongation of life are the rule rather than the exception.

*Cancer of the Stomach* is difficult to radiate because of the proximity of the adrenals. Temporary results are all that can ordinarily be expected; the mass may be made to disappear, obstruction relieved, general health improved and patients are able to return to work in cases in which the carcinoma is located on the lesser curvature at the pylorus and especially if of the scirrhus type. Large widely diffused carcinomas do not respond to radiation.

*Cancer of the Tongue and Floor of the Mouth* are not favorably influenced by x-ray radiation. It seems that the air cavities of the mouth and pharynx disperse the radiation to such an extent that homogeneous deep radiation is impossible. Radium is a far better agency in this location.

*Carcinoma of the Bladder and Prostate* are successfully treated by deep x-ray radiation. A number of cases are on record of complete recovery after several years. In a number of cases in which the size of the tumor of the prostate was reduced by radiation and then operated on, the preliminary radiation had not complicated the operative procedure by over growth of fibrous tissue.

*Sarcoma.*—Sarcoma is especially suitable for x-ray therapy; the dosage required for sarcoma

is sixty per cent of the skin erythema dose—and the results are uniformly good.

It is the consensus of opinion that these cases under no condition should be operated on—the operative procedure increases the chances for metastasis tremendously and the radiation alone is sufficient.

*Palliative Results.*—Even in cases that are hopeless, in those cases that are so advanced no agency could reasonably be expected to produce a cure, the palliative effects are gratifying. These people, suffering from the most horrible and disgusting of all diseases, are relieved very frequently of a repulsive discharge, disgusting odor and in many instances of an almost unbearable pain.

#### SUMMARY

1. Intensive x-ray therapy as practiced in Europe differs essentially from that practiced in America, and represents a distinct advance in the treatment of cancer.

2. This advance is due to the 1, development of more penetrating x-rays and 2, to improvement in instruments for the measurement of dosage.

3. Great care must be used in utilizing this new method of treatment. It should be used only by physicians and surgeons possessing adequate apparatus for developing penetrating rays and accurate instruments for measuring the rays and by those thoroughly trained in the use of these instruments. Otherwise it is dangerous.

4. In cancer of the uterus radiation is better treatment than radical operation; with it, in operable cases thirty per cent. permanent cures may be expected, in more advanced cases prolongation of life and relief of symptoms.

5. In cases of breast carcinoma radiation and surgery combined produce the best results.

6. Sarcoma is readily amenable to x-ray therapy.

7. In cancer of the bladder and prostate good results may be achieved; in cancer of the gastrointestinal tract while temporary and palliative results may be fairly good, permanent cures are rare.

## THE PRESENT STATUS OF CHRONIC GASTRITIS.\*

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In looking over the various text-books on diseases of the stomach, one is struck with the feeling that after reading the chapters on chronic gastritis he knows about as much as before, or perhaps ends by being more confused. On this account the writer has often questioned the actual occurrence of such a disease clinically, in spite of the fact that world renowned gastroenterologists continue to work on this subject and are apparently satisfied that this disease exists.

In considering this subject three questions come up for solution:

1. Is there such a condition as chronic gastritis pathologically?
2. Granting that there is such a condition anatomically, does it produce clinical symptoms or physical findings?
3. If there are clinical manifestations, are they sufficient to allow a diagnosis?

Allen A. Jones writing in Nelson's Loose Leaf Medicine refers particularly to alcohol as a causal factor and also to gastritis secondary to cardiac, pulmonary and hepatic conditions, or to pernicious anemia. It would seem that as a rule these cases of secondary gastritis may, at least from a clinical and practical view-point, be ignored as the picture of the ordinary disease overshadows all else. Also, it would seem at least possible that gastric symptoms occurring in cases of heart failure or other conditions producing venous stagnation below the diaphragm, are due, at least in part to enlargement of the liver. This may react on the stomach by pressure or reflex or perhaps the faulty metabolites of the liver may after absorption effect the stomach as well as other organs.

Martin E. Rehfuss in Oxford Medicine goes into the etiology at length but gives pathology scant consideration. A. Gigon in *Handbuch der Inneren Medizin* mentions hypertrophic and the atrophic varieties of chronic gastritis.

Knud Faber (*Spezielle Pathologie und Ther-*

*apie innerer Krankheiten*) goes into pathology at length. He refers to the early pathological report of Broussias, Andral, and Louis in the beginning of the Nineteenth Century. The microscopic findings were, redness, extensive discoloration, and mucoid degeneration of the mucous membrane in connection with softening and thinning of the stomach wall, or a warty appearance with thickening of the mucous membrane to which the term "état Mamellone" has been applied. He then goes on to say that it was later learned that most of these lesions were of *post mortem* origin and due chiefly to the effect of the gastric juice on the mucous membrane. John Hunter mentions this and in 1838 Robert Carswell in animals demonstrated this *post mortem* self digestion. Elsasser, 1846, demonstrated that the gastric softening of the new-born was due to auto-digestion. In 1854, Engel in his book "*Darstellung der Leichenerscheinungen*," gave a description of the changes occurring in the digestive organs after death and criticized severely the prevalent teaching at that time in regard to chronic gastritis, stating that these findings were merely a common autopsy manifestation. However, his opinion seems to have had no influence as in 1861 Rokitsky in his *Pathological Anatomy*, 3rd edition, gave the usual description of the condition. Engel's view-point was finally accepted; "aside from the polypoid inflammatory new formation, the pathological anatomist seldom dares to diagnose chronic gastritis from the macroscopic appearance and especially not on the basis of color change, mucoid degeneration, or because of the appearance of 'Surface Mamellone' which usually is the contraction of the remaining mucous membrane."

E. Kaufmann in his book on pathology takes up this *post mortem* change in the gastric lining and then further on gives a full description of the anatomical changes in the stomach of chronic gastritis.

It would seem, therefore, that the consensus of opinion favors the existence of a chronic gastritis from a pathological view-point, either grossly or microscopically, in spite of the fact that many of the *post-mortem* findings represent self-digestion. You will naturally inquire as to whether it is not possible to introduce into the stomach (either by stomach tube or trocar) some fixing fluid, such as formalin. This has been done. However, death does not affect the entire

\*Read before the Physicians' Club of Mishawaka, Ind., January 18, 1922.

body simultaneously. In a practical way we consider that the individual has died when his respiration and heart beat have ceased. It would seem very possible or even probable that during the last hours, with a waning vitality, changes may occur in the mucous membrane of the stomach while the patient is still alive.

We come now to the second question under consideration, "granting that there is such a pathological condition as chronic gastritis, does it produce clinical symptoms or physical findings?" Rehfuss in the article above referred to, gives very little about the pathology but does furnish a rather elaborate differential diagnosis dependent chiefly on the analysis of the gastric contents. Gigon, in describing the symptoms of this condition starts out by saying, "Chronic gastritis furnishes variable symptoms and it is hardly possible to give a sharp-cut clinical picture of this disease."

Most authors state that the appetite varies—may be good, poor or whimsical. Bad taste in the mouth, *fetor ex ore*, especially mornings. Immediately after meals or up to hours later there may be a feeling of fullness in the epigastrium. Yawning may occur as may also belching or hiccups. Sometimes there may be a pain which may be of cramp-like character or there may be heartburn. The commonest kind of discomfort is the variety occurring several hours after meals. Vomiting is not a constant occurrence. You will readily see therefore that these symptoms are so indefinite, not alone in regard to their character but also in regard to the time of occurrence that it is very difficult to make much use of them from a diagnostic standpoint.

The mucous vomiting in the morning of alcoholics is said by Boas (and there seems to be no reason for doubting this) to be a symptom of chronic pharyngitis and esophagitis, having nothing to do with the stomach. However, mucus in the stomach contents is the most important finding according to most authors as a diagnostic sign. It is generally pointed out that the mucus due to gastritis may be differentiated from that which has been swallowed by the fact that in the former it is in smaller masses and mixed with the contents, whereas in the latter it is more stringy and tends to float on top of the recovered material. It would seem to the writer that mucus, intimately mixed with the stomach contents as the chief factor determining the presence or

absence of a chronic lesion of the stomach, is rather uncertain because in practically any aspirated material it is possible by pouring slowly from one vessel to another to see little particles of mucus passing over, even when we have no suspicion of the possibility of chronic gastritis.

Now we come to the third question, "Granting that we have clinical manifestations, are they sufficient to allow one to make a positive diagnosis of chronic inflammatory disease of the stomach?"

Up to this time the endeavor has been to furnish as far as possible unbiased facts from the writings of others. From now on, it is purposed to present some personal impressions.

As mentioned above, it would seem to the writer that the finding of mucus in the stomach contents is a rather uncertain thing upon which to base a diagnosis. And yet, practically all writers agree that this is the only positive finding in the disease under consideration. Mucus can be readily swallowed either before the aspiration or during this act. If a person has some inflammatory process in the upper air passages (nose, sinuses, etc.) it is a very common thing to continuously swallow mucus. In the use of the stomach tube, even though one is very dextrous and recovers the contents in a very short time, there is still a possibility of increased mucous secretion from the pharynx and esophagus slipping down along the tube into the stomach. It is not difficult to believe that the stomach during the retching movements may readily stir up this material so it becomes pretty well mixed with the remainder of the contents. If this is true when the stomach tube is allowed to remain in place for only a short time, it is of course much more apt to occur if the passage of the tube consumes considerable time and especially if it produces nausea, retching, etc. From what has just been presented, it would seem justifiable therefore if we see fit to minimize as a diagnostic factor the presence of mucus in the aspirated contents or in vomitus. It has been commonly stated that catarrhal inflammation is common to all mucous membrane and that the stomach can be affected as well as any other organ. We know now that at least some of these so-called catarrhs are not in reality inflammation of the mucous membrane itself. For example, what we formerly thought to be a catarrh of the nose, we know now is due either to mechanical difficulties or

to infected accessory sinuses. Years ago it was not uncommon to diagnose catarrh of the bronchial tubes, and I think you will agree with me that many of these patients are now dead of pulmonary tuberculosis. It might be in place here also to bring up the question of the status of mucous colitis, which on the face of it may seem to be an excellent example of catarrhal inflammation. However, in looking at this disease from all angles, it would perhaps be more just to classify it along with the intestinal neuroses. It would seem difficult therefore to find elsewhere in the body, any manifestation analogous to that supposed to occur in the stomach with chronic gastritis.

It will have to be admitted that chemical irritants (alcohol and tobacco) may produce a catarrh of the pharynx and esophagus and one might expect to find a similar condition in the stomach. Granting that this is possible, we must next answer the question "does it actually occur?" The following from Abraham's Revision of G. Herschell's Text Book on Indigestion is relevant:

"There is a tendency to describe all stomach disturbances irrespective of symptoms, and independently of more exact investigation of the patent, by the term 'Chronic Gastritis.' This condition accurately considered is comparatively rare. Goodhart has pointed out that the stomach does not easily catarrh. (Goodhart's Common Neuroses, London; H. A. Lewis, 1894.) We know as certain as we know any fact in physiology or medicine, that of all the multitudinous sins of omission, that are done to its would-be detriment there is happily not one in a hundred, if so many, to which the stomach deems it necessary to turn a hair. Were it otherwise, civilized humanity would not last out two or three generations. Except when due to excess of strong alcohol, chronic gastritis most frequently indicates severe organic disease of some important organ. A diagnosis of chronic gastritis based on subjective symptoms or external manifestation alone lacks scientific foundation; a correct diagnosis of this can be determined only with the stomach tube."

As mentioned above, the majority of observers agree that the only definite criterion of chronic gastritis is mucus in the stomach contents. If we are willing to admit that the mucus found in the aspirated material is of gastric origin, then the only remaining question is whether or not a reflex from a distant organ (appendix, gall-bladder, etc.) may not bring about an increased production of mucus from the gastric mucosa. It seems that in the colon it is possible to have this

occur on a pure nervous or perhaps reflex basis. Is it not reasonable to suppose therefore that this may also occur in the stomach?

Hydrochloric acid is produced in the stomach as a highly specialized function of the parietal cells of the gastric glands. One would rather expect that in case there were any inflammation of the mucosa that this function would be always diminished. However, we are told that chronic gastritis may be observed with a high gastric acidity, normal amount of acid, or a diminution in the amount of this secretion. It is strange that any given pathological process should be so variable in its manifestation.

In the medical clinic of Bassel in the years 1909 and 1914 there were 1,505 cases with digestive disturbance and of this number 139 (9.2%) were diagnosed as chronic gastritis.

The following cases illustrate the difficulty of endeavoring to diagnose chronic gastritis from the symptoms. The first case is that of a lady, thirty-six years of age, stenographer, single. She complained of belching and gas two or three hours after a meal with pressure and heaviness in the epigastrium at the same time. Sometimes it comes on immediately after eating. Appetite is variable, sometimes very poor and at other times ravenous. No vomiting. Some nausea at times, dizziness also. Bad taste in the mouth resembling the taste of copper. Slight loss of weight. Bowels regular but is taking mineral oil at present. Examination showed that she was somewhat tender in the right hypochondrium and slightly tender in the epigastrium. The test meal shows Hcl. 4 and Total acidity 9 and the contents showed small flakes of mucus.

The patient some eight years ago had an attack of what was thought at that time to be acute appendicitis, keeping her in bed three days; this would lend color to the possibility of a chronic appendix or a chronic cholecystitis.

The operation disclosed a chronic appendicitis with adhesions.

Mrs. M. Di L., married. Age 23. Duration of illness about four years. Began with discomfort in the right iliac region without relationship to meals. Shortly after this a feeling of distress in the epigastrium coming on an hour or two after meals. Two years ago appendectomy practically cured pain in the right iliac region. Stomach trouble persisted. Gradually began to occur a shorter time after eating and now it comes on sometimes while she is still at the table, but usually a half hour after eating. Formerly the distress would occur every day for a month or two and then she would have relief for a number of weeks. Since the baby was born seven months ago, her distress has been present practically every day.

Examination shows she is particularly tender in the right hypochondrium. Test meal shows on one oc-



casion Hcl. 20 and T. A. 42 and a later test shows Hcl. 6 and T. A. 14 with small flakes of mucus found in the stomach contents.

Patient operated upon January 25, 1922, and twenty stones were found in the gall-bladder.

In a clinic for diseases of the gastro-intestinal tract at the Post-Graduate Medical School of Chicago during the past ten years the writer has seen no case in which he has felt justified in making a diagnosis of chronic gastritis. This statement is given to you for what it is worth and with absolutely no feeling of egotism. But, whether I am right or not, or whether the men are right in reporting practically 10 per cent of their gastro-enterological material to be chronic gastritis, the fact remains that it is a very difficult and almost impossible diagnosis to make with any degree of certainty. It would seem advisable therefore, rather to withhold a diagnosis and continue the investigation of the case rather than to come out flat-footed in a diagnosis of chronic gastritis and thus close the doors to any further investigation, with the danger perhaps of overlooking an early carcinoma, or some other serious lesion.

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# SIMPLIFYING THE DIAGNOSIS OF SOME KIDNEY AND BLADDER DISEASES BY USE OF THE CYSTOSCOPE AND X-RAY\*

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The more recent advancements in urology and roentgenology are responsible to a large extent for the greater accuracy and simplicity in the diagnosis of urological conditions. The established definite procedures such as ureteropyelography and cystography are now looked upon as routine methods. The roentgenologist realizes the limitations of the x-ray without the use of these methods so we make it a routine practice to combine both the cystoscope and x-ray in the study of all urological conditions. While large clinics have combined the cystoscope and x-ray in studies of the urinary tract, there is room for a more general adoption of this method.

The usual reasons why more patients are not given more complete examinations are:

First. The lack of proper x-ray facilities.

Second. The lack of facilities for cystoscopy.

Third. The inconvenience and effort necessary to get a patient to submit to the examination and spend the necessary time and money, when the importance of such an examination is not understood by him.

The foregoing causes can usually be eliminated if the attending physician will explain to the patient the necessity of such an examination for the purpose of diagnosis and advise him to have the examination made.

Our method of procedure is as follows: When a patient in whose history urological symptoms or signs are present, reports for examination, we make radiograms of both kidneys, both ureters and the bladder. No special preparation is necessary for such radiograms as the gas which usually follows a cathartic, sufficient to thoroughly empty the intestinal tract renders the radiograms unfit for conclusive interpretation. As soon as satisfactory radiograms are secured the patient is examined from the urological standpoint including cystoscopy and ureteropyelography. This is carried out by the following method of examination.

1. Cystoscopic examination of the bladder.
2. Passage of wax bulb for determining whether a ureteral calculi or stricture is present.
3. Catheterization of both ureters.
4. Relative renal functional test with phenol-sulphonephthalein.
5. Determination of pelvic capacity by injecting a 25 percent solution sodium bromide to point of fullness.
6. Followed immediately by pyelography, ureterography and cystography.

*Interpretation.* One should be familiar with the normal kidney pelvis and the more common abnormalities. The normal pelvis varies in size, shape and position, but so long as it functions normally one should be careful and not confuse abnormalities of outline and position with pathology. The true pelvis, the major and the minor calices bear a rather constant relationship to each other. Changes in one at the expense of the other is the rule in pathological conditions. For example in the beginning of hydronephrosis the major calices broaden and elongate and the pelvis dilates and the minor calices become flattened with the irregularities obliterated. In over dis-

\*Read at the 47th annual meeting of the Southern Illinois Medical Association, at Belleville, Ill., Nov. 3-4, 1921.

tention a relative enlargement of all three is present. Likewise, in incomplete injections and small pelves the pelvis and minor calices are likely to be small but bear a constant relationship.

In movable and ptosed kidneys where the ureters are circuitous as long as there is no evidence of dilatation that would suggest obstruction, the condition may not be pathological. Differentiation between inflammatory and obstructive lesions is sometimes difficult but in an inflammatory process the minor calices show greater dilatation and the major calices a clubbing effect. In necrosis and destruction there is an irregular contour. The presence of stones, calcareous deposits and pus from that side completes the picture of a pyonephrosis. Tumors of the kidney are usually characterized by a deformed pelvis, elongated calices and an enlarged kidney outline which may displace the stomach and colon toward the median line. They may be differentiated from spleen and gall bladder by stereoscopic pyelography.

Urological cases divide themselves into those giving positive x-ray findings and those giving no evidences of disease on the x-ray plate. The most common conditions which give positive findings are: Urinary calculi, deposits of mineral salts in various parts of the urinary tract and inflammatory calcification. These conditions require differentiation from those outside the urinary tract such as gall stones, calcified glands, phleboliths, fecaliths, etc. Sometimes stereoscopic plates will differentiate, but usually it is done by cystoscopy, ureteral catheterization, and ureteropyelography.

We have abnormalities in the size, shape and position of the kidneys such as renal neoplasm, enlarged kidneys, renal ptosis, and perinephritic abscess, but one should be cautious in making a positive diagnosis of any particular type of pathology from the shadow of the supposed enlarged kidney. Such a mistake is easily and frequently made.

Pathological conditions in which the x-ray gives no positive evidence of diseases are far greater than those in the above groups, for instance, the different types of urinary calculi which are not visible on the x-ray plate. The calculi made up principally of uric acid are usually found in the bladder. Some roent-

genologist claims that 15 percent of calculi in the kidney, 35 percent in ureters, 60 percent in the bladder cannot be shown by x-ray. If the x-ray study is negative there should be further urinary investigation if the symptoms are referable to the urinary tract.

#### CONCLUSION.

1. In all cases where symptoms are referable to the urinary tract the combined method of examination with the cystoscope and x-ray is indicated.

2. Urological lesions are frequently diagnosed by the aid of x-ray when the diagnosis is doubtful otherwise.

3. In 50 per cent of urological cases the x-ray shows negative pathological conditions, but with the combined method the diagnosis can usually be made.

4. X-ray findings should in all cases be verified by the urologist before a conclusive diagnosis is given.

5. The combined method is the ideal procedure in the diagnosis of most urological conditions.

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#### GENERAL HOSPITAL BEDS FOR ACUTE MENTAL CASES.\*

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The average medical man if he were to be accused of a dualistic view of mind and matter would emphatically deny this reflection upon his reasoning powers. He knows well enough that the mind is merely the brain in action, and that the brain is an organ of the body affected in its workings by physical causes. And yet the general profession is not interested in the treatment of mental disorder as it is in other specialties which seem to have a more tangible basis. The mental patient is too often only a poor "nut" to be smiled at, pitied and put away. To be sure the profession is humanely interested in any steps for the amelioration of the sad condition under which it presumes these unfortunates must drag out their life span, and occasionally are individually surprised that so much can be done with mental cases—but there the matter ends.

During the past ten years or more the writer

\*Read before the Chicago Medical Society, May 10, 1922.

has talked with many medical men and knows whereof he speaks; and that, as the reflection of this attitude of mind, there is a crevasse both broad and deep between the general hospital and the private sanitarium, or State hospital. And yet of those who die in hospital beds in this country one in twenty-five dies in a State hospital. The Chicago State Hospital in the year 1919 discharged nine hundred patients as recovered or improved. Of course the vast majority of these discharges belonged to the latter group, but, upon the other hand it might be questioned how many of those discharged from a general hospital are actually recovered—when one stops to consider the enormous amount of palliative surgery that is done along with the stomach, kidney and heart cases that are only temporarily repaired and go out under a cloud of instructions as to the lives they must live if they may hope to get along at all.

Possibly this may seem to be a good argument for state hospital care but it is not—when we stop to consider the handicaps under which these institutions labor. Upon the whole the best they have to offer is group care even under the most favorable circumstances, good enough perhaps for many types excellent for some, but not sufficient for the acutely sick where every resource of medical diagnostics and treatment must be exhausted before hope of recovery is cast aside.

The Cook County Hospital has a pavillion for mental cases—the Psychopathic Hospital. It is an excellent institution and admirably managed but it is not a hospital in the sense that the rest of the institution is. Even so, during the year 1920, two hundred and fifty-nine patients were discharged as recovered and three hundred and seventy-two as improved—a most gratifying result in view of the fact that the average stay of these patients amounted to but ten days or two weeks because of the constant push of 500 admissions a month. And yet, as we all know, the chief office of the county psychopathic hospital, despite its name, is the temporary detention and speedy distribution of mental cases. What it can accomplish by way of immediate restitution is, as it were, so much *velvet*, results obtained, without extra overhead, by seven doctors, 12 nurses and 50 attendants (upon three shifts) in charge of 125 beds—and 500 admissions monthly!

When bewildered, delirious, hallucinating, ane-

mic, poorly nourished, arteriosclerotic, intensely excited patients are passed on to the state hospital they must be cared for in large wards, buildings constructed to house two thirds of the number they contain at present. All State hospitals were overcrowded five years ago and in the last year their population has increased one thousand; i. e. Chicago 300, Elgin 300 and Kankakee 400. Individual care under these circumstances cannot be given because it is humanly impossible. The number of attendants upon duty at any one time averages one for every 30 patients and few of them have had special training in the care of acute cases. Dietary regulations can only be carried out in large groups and the resident staff, after performing its routine duties, must do the best it can by way of special examinations and diagnostic procedures.

The writer is proud of the State Service, proud of its accomplishments in the face of odds, but he would be a poor physician if he could not vision the possibility of better ways of doing things and wish for their accomplishment. However, we must be patient since today the State of Illinois is spending more money than ever before upon its insane and the public is groaning under a load of taxation that provides less than a dollar a day per State hospital bed!

Private sanatoria provide better food and a better furnished, less crowded environment. A few do something more than this. Discussion of this matter is dangerous ground. The sanitarium is a public convenience, dependent upon private enterprise and as such must make money to ensure its existence. Fifty dollars a week including medical care is not a huge sum and will not command in a private enterprise all the resources of diagnosis and treatment in cases where more is to be considered than a faulty behavior reaction, that pat phrase of recent days which so deftly enshrouds half-knowledge in a luminous mist of ambiguity.

The sanitarium is a most necessary stop gap or shock absorber between the home and the State Hospital, admirably suited to the needs of a certain group of cases but too often more closely related to the boarding house than the hospital. Cases which will recover after separation from business or family cares, together with some regulation of hours and diet do well, the remainder require more than can generally be given them in



view of the limitations under which the ordinary private institution labors.

For example, a few weeks ago the writer saw an old man, suffering from involuntional melancholia, a case demanding every medical and nursing resource, anemic, self-starved and bowed down with imaginary woe, admitted to one of our State institutions. He had been in a private sanitarium and his family could well afford to give him real hospital care, but no one had advised this although in this particular locality there is a hospital which occasionally takes a mental case, if it is not noisy or violent. If the old man's life and recovery—(for he is a recoverable case), are worth while he must have more attention than a State hospital can give, a nurse both night and day, every possibility of dietary treatment, massage, occupational diversion, possibly an operation for enlarged prostate when stronger, etc. At present, in view of his financial resources, he is in the wrong place and will probably die.

Another old gentleman, suddenly excited and bewildered, especially at night, was placed not long ago in a sanitarium where he promptly developed a low grade cellulitis of the legs with an increasing degree of what appeared to be mental enfeeblement of organic type. When, as a last resort, he was removed upon a stretcher to a nursing home and place in charge of a surgeon and a trained nurse he promptly recovered both mentally and physically. The apparent organic dementia was merely a confusional state precipitated by remediable physical causes. The entire episode covered a period of less than one month but remains in the minds of the patient and family a night marish experience, due in great part to the sanitarium experience for which unfortunately the patient has only a partial amnesia. And yet, in so far as possible, he was treated kindly and carefully. The fault did not lie with the private institution, as organized to ensure its own existence, so much as with his family physician who did not know that this particular community was at least provided with nursing beds for mental patients—thanks to the clear vision of a religious order.

Consider for a moment the situation in which the patient and his family are placed at the onset of acute mental illness. Obviously the average home is no place for treatment but where in Chicago, with its numerous hospitals, can the

case be taken for immediate treatment at a price within reason. If it were only a case of appendicitis, or strangulated hernia or placenta previa the problem could be readily solved. Within an hour the patient, no matter how poor, would be in a general hospital bed with abundant nursing care and the comfortable assurance that every resource of a great organization was already at work for his relief. But the mentally afflicted must be unsuccessfully, sometimes even disastrously treated at home, or hurried to an out-of-town sanitarium or sent to the County Psychopathic Hospital, along with the other hundred and twenty-five patients of that week's intake, from whence in a few days time he goes to the State hospital where he becomes one in a large group, possibly to his benefit, possibly to his great detriment. In any event the entire hasty procedure adds shock upon shock to the patient and his family and out of this traumatism in many cases only evil results can be expected. Mental illness is so bad in itself that separation may constitute a relief for all concerned but when this necessitates removal from town and even commitment for insanity we have added all that a mortal can well bear.

Possibly, however, this is a bit too sentimental a view of the entire matter. It might be said that the mentally disordered upon the whole are in fair physical health and clear enough to get along pretty well without any great amount of medical attention. A physician in the East has for three years now carried out a "detoxication" procedure, as he calls it, upon patients in the so-called functional group (manic-depressive, dementia praecox, infective exhaustive and the psychoneuroses) and as a result claims an average discharge rate of 65 percent in this group as against 37 percent in former years. He cites statistics and illustrates his argument with a considerable number of cases of recovery following the removal of infected teeth, tonsils, colons, cervixes, seminal vesicles, etc. He is full of enthusiasm which very possibly colors his interpretation of results but there is enough fire behind the smoke to strengthen the argument for a complete and painstaking physical analysis of every mental case, even of some that are apparently so frankly organic as to defy therapeutic approach; vide the case of the old men cited above and others that might be mentioned.

Operative procedures, unless emergency affairs,



cannot be undertaken in the ordinary sanitarium; in a general hospital they are readily accomplished, in fact the very ease with which they can be done may very well be a determining factor in the decision, that if wisely taken after proper study will at least remove an obstacle in the way of recovery or improvement. The State of Illinois has for some years employed a whole-time surgeon to care for its insane patients and prisoners but in dealing with twenty-five thousand individuals this treatment must necessarily be extensive rather than intensive and though much relief has been afforded no startling results in the way of recoveries have been obtained.

And then there is the nursing problem already referred to in connection with the lack of adequate help in State institutions. Adequate nursing means personal attention and, just as in ordinary medical and surgical cases, this "adequacy," depends upon the condition of the patient. In some cases it will mean a nurse on each shift, in others one nurse for two or five or even more but *always*, in the acute case during observation, physical examination and special treatment, it means the care of a *trained nurse*, not an attendant or an orderly, but a woman who has had hospital training plus a special course in mental nursing. Of this more later.

Now if all these needs and possibilities exist in the care of the mental patient, is not the general hospital, which looks to the community for its support and in return assumes the office of a public servant, obligated to open its doors ungrudgingly to this modern pariah, not only when quiet and orderly but even when excited, noisy and violent and therefore all the more in need of medical attention? I think there can be but one answer. In fact the reply of several large hospitals in Chicago to this question indicates their entire appreciation of the situation. But it seems there are a number of lions in the road. Some have teeth and others none.

In the first place there is a most natural dread of noisy and violent behavior, which may annoy and even shock other patients to their detriment. The argument is a good one against ordinary ward care in the heart of the hospital. The mental ward must be segregated and made as sound proof as possible and have its own en-

trance. This means careful planning but it can be done even in an old hospital, preferably upon an upper floor and away from the pavilions housing the clientele most sensitive to noise. Thanks to constant training the ordinary Chicagoan is not unaccustomed to noise. And after all very few mental patients are noisy enough to be heard any distance away. Noisiness in acute cases usually occurs when the patient is uncomfortable for one reason or another which again resolves itself into a question of tactful nursing care and medical treatment. The same may be said of violence. Skilled and tactful personal care and attention generally solve this problem quite promptly.

Then there is a fear of accidents with their accompanying undesirable publicity, but sanitariums take this risk and how seldom do we read of their misfortunes. To be sure some risk must be taken but so far as the patients are concerned this would probably be much less than that which ordinary hospital patients run in undergoing adventurous surgery. *Publicity alone can never seriously harm a competent organization sincerely endeavoring to do good work.*

The question of lack of space, proper equipment and endowment, is a more serious one and not capable of argument here. Certainly if the need exists and there is an honest desire to satisfy this need the space can be found.

Then there are the nursing difficulties and of all the lions in the way this is perhaps the worst with which we have to contend. The average nurse reflects the opinion of the average medical man concerning mental disorder. She looks upon it as something quite outside of the ordinary nursing field, somewhat comical, rather terrifying and quite hopeless. A female patient is bad enough, a male impossible. Upon the registry she states that she will not accept mental cases and feels rather self-righteous in so doing.

This attitude is of course not the fault of the nurse but of her education. She does not know what fine people become insane, she thinks that most of them are syphilitic (in reality less than 20%) and she has never had the satisfaction of seeing a clouded mind become clear. At the Chicago State Hospital the State of Illinois has for some years conducted a school of psychiatric

nursing in connection with which affiliated courses of four months are given to the pupils of general hospital training schools. Over 115 girls have already taken this training and almost without exception they go away with a new vision of the possibilities in this field of nursing. They like the work, they lose all fear of mental disorder and in its place experience that fascination so common to those who have had experience with the practice of psychiatry. So this obstacle is after all not so insuperable as it may seem to the average hospital superintendent and training school head. Let them send their pupil nurses to the State school and we will train them out of indifference or fear into interest and even enthusiasm.

The remaining difficulties in the way are inconsiderable. Of course the medical staff must be educated and convinced but this should not be a hard task, if they are sure that mind and matter are not separate entities.

The cost of care is naturally an important item, but those who have any financial resources will gladly make any ordinary sacrifice for the sake of an opportunity to hospitalize their patients during the "period of hope," rather than to commit them or send them to an out-of-town sanitarium. For those of very moderate means and for the destitute but hopeful cases, endowed beds should be provided. Not a great many beds of this character will be required. The great mass of mental cases will for years to come continue to tread the well beaten path to the State hospital or to a private sanitarium.

Allowing an average individual residence of ten weeks, twenty beds would care for 100 patients yearly; and a twenty to twenty-five bed pavilion from the point of economical administration, nursing care and general upkeep is quite an admirable unit. Three such pavilions in the city of Chicago would do a great work. Still better would be the endowment of a separate institution with a complete staff of medical and surgical consultants, fully equipped with every facility for diagnosis and treatment.

Either of these measures in the writer's opinion would meet the demands of a very definite situation in Chicago today—the application of general hospital standards of care and treatment to acute mental cases.

## THE ROLE OF THE PHYSICIAN AND SURGEON IN THE PROPHYLAXIS OF NEURASTHENIA IN CONVALESCENTS.\*

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CHICAGO.

The successful outcome of the treatment of a case of physical disease or injury may be complicated by the unexpected appearance of functional signs and symptoms of a condition which if neglected and if uncorrected might develop later into neurasthenia. The careful medical man excludes functional disorders before operating or when making his original diagnosis and outlining treatment, consequently he is surprised if not baffled at the insidious manifestations of neurotic involvement. No one of us wants one of our cases which has received good technical care to remain a partial invalid, for such a disaster piques our professional pride, weakens our self confidence by perplexing us, and hurts our reputation. A great many cases of potential neurasthenia among convalescents may be aborted by suitable prophylaxis based on an understanding of the controllable etiological factors and by early corrective treatment.

It is necessary for us to realize the natural mental and emotional limitations of our patients when they are well and the greater limitations when they are sick. These limitations vary in individual patients. It is also necessary to see that the patients properly exercise their minds within their changing limitations as there are variations in the course of their illness and convalescence. In other words, the attending physician must take as much cognizance of and assume as much control of the mental hygiene of the patient as he does of the gastrointestinal hygiene, for example. There are very few persons even when in excellent health who are able for any great length of time, say twenty or thirty minutes, if alone and without the aid of pencil and paper to think continuously and constructively on a single subject. Application and relaxation in thinking purposefully controlled is rare. Use and exercise of the emotions within reasonable range is as seldom found as is appreciation of contentment or as the limiting of one's ambitions to what is practical of attain-

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ment. On the contrary there is usually found in the average person an inability to concentrate and maintain the attention, sporadic thinking, vague, dim, dreamy or unclear thinking at times, emotional inhibitions, restlessness, and extravagant ambitions. "If I were only well and strong—," "if there is no horrid looking scar remaining—," "if I will look better after this is all over—," "if things will only work out (my way or to my advantage—," and similar longings are delictorious because they cause dissatisfaction. The conflicts between the reluctance to accept realities as they actually are and one's desires are almost as disastrous to the individual as emotional conflicts with one's self. Average persons are not trained to think. Mental discipline is a phase of mental hygiene not universally practiced. People with surplus time and no occupation indulge in excessive undisciplined thinking. Day dreaming or phantasy formation are bad habits, when rearoused and indulged in excessively; their deleterious effect can hardly be over estimated.

The sick and convalescent not only have unlimited time for thinking but are unduly concerned about themselves. Like children their body is their main interest. They like to talk about themselves and the characteristics of their ailments. As they become self centered they grow indifferent toward their former interests and toward their environment except that they become petulant when the environment is not in accord with their whims or desires. Their attitude of complaining plus their realization of their helplessness and impotence make them irritable. As a rule the mood of the sick is somewhat depressed or saddened. "You have no idea how much I suffer," or "no one cares how much I suffered." Occasionally they substitute for their self-sympathy or self-pity a pitying sympathy for others who are afflicted. We notice this in the often morbid interest of hospitalized patients in the management of hospital details and in adjacent patients. The patient's heredity determines the rebound of mood, other things being equal.

After infections, exhaustion including after hemorrhage, toxic states and after a period of unusual strain or conflict there results a condition of increased fatigability. For example, there was a marked increase in the incidence of neurasthenia after the recent influenza epidemics

with the pronounced exhaustions and toxemias and protracted convalescences. Among the reasons why neurasthenia is not more common may be listed the keen insight of the attending physician or surgeon, sensible nursing care, and the interest of the family and friends of the patient as shown by the lightening of overwhelming burdens.

It is very difficult for the medical man to detect the beginning signs and symptoms of neurasthenia because the patient deliberately tries to make a good appearance whenever the doctor visits the bedside. The surgeon is more handicapped if he sees the patient for the first time after hospitalization than the physician who knows the patient in her home environment. If a provisional diagnosis of intercurrent neurasthenia is considered then a thorough neuropsychiatric examination is indicated. As soon as neurasthenia is diagnosed proper treatment should be instituted. Because of the patient's accustomed dependent and obedient attitude toward the physician or surgeon of the patient's first choice it is often the case that the attending man can apply psychotherapy under advice better than can the consultant psychiatrist.

When it is realized that the vicious spiral of the etiology of neurasthenia is that the patient (a) has too much time to think, (b) is unaccustomed to disciplined thinking (c) thinks too much about herself, her body, her illness, (d) has increased fatigability, (e) shows alteration of mood usually being depressed or irritable, and (f) so keenly wishes for good health and strength with its infinite possibilities that her wishes lead to a riot of phantasying in the idealistic dream world of unreality; then in the prophylaxis naturally the points of attack are (a) allowing the patient less time for thinking by assigning various forms of occupation to fill her waking hours, (b) inaugurating self disciplined thinking by explanations and by exercises (c) denying the patient gratification of her desire to know all about her pathology even though the rules of practice building tell us that the best way to make a former patient become a patient-getter is to magnify and explain to her her own signs and symptoms, (d) affording the opportunity for frequent periods of mental rest, (e) having the nurse remove causes of irritation and have the family and friends bring cheer and comfort, and (f)



assuring the patient that the less interest she takes in her sickness, the more interest she maintains in the things which normally interest her and the fewer doubts and fears she has, the sooner she will be enabled to resume her natural place in the family and in society.

The prevention of emotional excursions and conflicts is really the most important factor in prophylaxis. The most tangible factor is occupation and is worthy of a brief consideration. Entertaining amusements may be used as graduated exercises in camouflages. The card game of double Canfield, first one move at a time alternating between the patient and the nurse but gradually making as many moves as possible in alternation and later becoming sporting by each making as many moves as possible and the same time in hurried competition is an excellent way to occupy a few minutes once or twice a day. Reading a part of a short story in some book not heavy to hold, reading fifteen minutes at a time from the daily newspaper, and reading only one letter at a time after the mail is distributed are ways to build up concentration of attention. The nurse should insist that the patient answer her mail daily even if with lead pencil and postcard: discriminate carefully between asthenia and neurasthenia. Chronic patients should be encouraged to go to movies, entertainments and church services. Some manual work should be insisted upon, sewing, weaving, toy making, etc., for periods of time of increasing length, because unselfish constructive work is both interesting and satisfying and the patient notices what she can do instead of morbidly contemplating what she cannot do. Realization of total incompetency and the futility of any self expression makes a person irritable. Occupational therapy as applied in some hospitals even where the details as well as the planning are done by an employed occupational therapist is now only about one-half of one percent of what might be done under ideal circumstances where the medical and nursing staffs understand its value and its potentialities so well that they are most co-operative. Habits of work and continuity of effort are more important for the idle sick than for the healthy and strong. The patient should maintain a healthy mental contact with the world even though the body of the patient is sick. Much planning and the burdening of the memory should be relieved

by jotting memoranda on a suitable "reminder" kept conveniently at hand if we wish to prevent the anxiety, restlessness and the troubled dreams which ensue from carrying ideas of incompleteness.

The fundamental prophylaxis is for the physician or surgeon to prohibit and absolutely interdict day-dreaming or phantasy formation—a too pleasant and too easy escape and refuge from the physical pain and mental dissatisfaction resultant upon being sick or convalescent because the fee for emotional conflict and self interest endures in the form of debilitating vivid memories much longer than the doctor's bill remains unpaid. Psychotherapy, training in mental discipline, augmented by occupation under supervision are the constructive means of prophylaxis. Thus may chronic, mild or severe, mental-emotional invalidism be prevented so that when the patient is discharged as recovered she is not afflicted with lingering sequelae of her illness or disease necessitating subsequent treatment by a neuropsychiatrist. Since the etiology is different in the well recognized type of traumatic neurasthenia and the insidious neurasthenia of convalescents, although the signs and symptoms in marked cases are much alike, the prophylaxis of cases developing while under medical care is a problem the physician and surgeon must be prepared to solve by the best means available.  
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#### VERTIGO, AND ITS SIGNIFICANCE AS A SYMPTOM\*

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By vertigo is meant a subjective sensation of a disturbed relationship of one's own body to the surrounding objects in space.

Any discussion of vertigo must necessarily lead to a discussion of the ear, and especially the labyrinth, which is the end organ of the vestibular portion of the ear.

Science tells us, that in the development of the ear the auditory function was the last to be acquired, and that our aquatic ancestors possessed only the vestibular portion. While in thinking of the auditory nerve we are inclined

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to think only of the function of hearing, we are in doing this neglecting the most important function of the ear.

It has only been in recent years that the intimate connection of the vestibular portion of the internal ear with the entire human economy, has been appreciated.

We have for many years associated dizziness in some mysterious way with the function of the internal ear, but it is only in the past few years that the function of the vestibular portion of the labyrinth has been carefully studied.

Robert Barany was the pioneer in this line of work. He has proven conclusively that the vestibular portion of the internal ear is intimately connected, through the nervous system, with the musculature of the entire body.

He has systematized this work and given us the so-called Barany's tests, which enable us to acquire valuable information, not only about the internal ear, but the intracranial pathways and nervous system. There is no portion of the body musculature that is unaffected by the stimulation of the labyrinth. He has proven that the kinetic static labyrinth is the organ of equilibration, and that when this function is interfered with, we get vertigo.

Dizziness, or vertigo, always results when there is a contradiction between the nervous impulses from the semicircular canals, and the position of the body as indicated by the other sense organs.

Vertigo occurs particularly in affections of the labyrinth which paralyze or irritate the end organs in the semicircular canals, and thus lead to a pathologic distribution of the exciting influence and a consequent faulty perception in reference to the position of the body.

It will readily be seen from the foregoing statements that the subject of vertigo, from whatever cause, is really an ear study.

While considering all vertigo as an ear disturbance, it must not be considered that vertigo can be caused only by a disturbance within the ear itself. It is well known that certain visual disturbances, cardio-vascular affections, gastric or alimentary disorders, also manifest vertigo as a symptom.

The essential feature is that it is a direct action on the internal ears or their associated pathways in the brain that is responsible for the vertigo. It is only when the alcohol reaches the internal ear that the drunk man develops inco-ordination.

Perfect equilibration is accomplished through the harmonious action of three nerve tracts.

1. Vestibulo-ocular.
2. Vestibulo-spinal.
3. Vestibulo-cerebellar.

Of these, the first is of least importance in the maintenance of equilibrium. Complete loss of function of this tract does not produce vertigo. It is only a false sensation received through this tract, which fails to correspond with the sensations received from the other two that causes vertigo.

If the vestibulo-spinal tract fails to functionate, the patient usually is able after a short time to compensate for the loss and maintains equilibrium with the other two. But never with one.

This explains the Rhombberg Sign. The tabetic having lost the use of the vestibulo-spinal tract, maintains his equilibrium with the other two, but when he closes his eyes he is unable to do so. Hence the tabetic patient falls when he closes his eyes and is very unsteady in the dark. The tabetic who is also blind cannot stand alone. Neither can he determine the position of his legs or arms on account of this loss of his muscle sense.

As vertigo is a subjective symptom, it is of infinite importance that we go thoroughly into the history of each case. Some patients will complain of this symptom when careful history analysis will show that the affection is not a real vertigo. We are frequently rewarded with information that amounts practically to a diagnosis after getting a good history.

The vertigo that is continuous for two or three weeks and then disappears is most likely due to a labyrinth lesion, as in these cases compensation is established in about three weeks.

If the vertigo is transient and extends over several months, we must think of toxemia, especially if we can exclude the circulatory system.

If the vertigo is continuous and lasts for sev-

eral months, we have a condition that is very suggestive of a cranial lesion.

We may, therefore, for convenience of study follow Jones' classification, which is:

1. Ocular vertigo.
2. Cardio-vascular vertigo.
3. Toxic vertigo.
4. Lesions of the ear itself—labyrinth.
5. Cranial vertigo—intracranial pathways.

From the standpoint of the eye the subject is comparatively limited.

Vertigo associated with paralysis of the ocular muscles is evidently due to a false projection of retinal images, as a result of which disturbances of space orientation might naturally give rise to vertigo.

It is really the conflicting sense perception obtained through the eye and the kinetic static labyrinth that produces the vertigo.

Probably the most important in this class is paralysis of the extra-ocular muscles.

If an individual acquires diplopia and becomes dizzy only when attempting vision in the right visual field, we know that the right sixth nerve is involved.

The question arises as to what extent this nerve is involved, as that has some bearing on the prognosis.

As the ear stimulation is always stronger than the voluntary cerebral stimulation, we are able by the ear stimulation to determine, more accurately, the degree of involvement of the nerve. The horizontal semicircular canal is connected by nerve paths with the sixth nerve nucleus and with that portion of the third which controls the internal rectus.

By using cold water in the right ear, head back 60 degrees, we are able to determine the degree of paralysis.

The patient with a paralysis of the right external rectus has no vertigo or diplopia on looking to the left field, but on looking to the right, that is in the sphere of action of the paralyzed muscle, the right eye lags behind; this causes an apparently rapid movement to the right of all objects seen with the right eye. The whole

world, to this patient, is moving rapidly to the right.

If the patient closes the right eye, or keeps the head rotated to the right, and the eyes rotated to the left, his vertigo and diplopia disappear. This is a characteristic attitude of these patients.

If the patient only has vertigo when going down stairs, the probability is, he has paralysis of the fourth nerve. The high hypermetrope has dizziness when he first puts on glasses. This is due to false localization of objects, which results from the prismatic effect of the glasses. This is corrected by having the patient turn his head instead of the eyes, so that he always looks through the optical center of the lens.

*Cardio-vascular Vertigo.* In this class we may have any of the cardio-vascular conditions which produce either an ischemia or congestion within the cranium. If an arterio-sclerosis with high blood pressure we have to deal with a congestion which may produce vertigo by interference with the labyrinth or any of the ear tracts between the labyrinth and the cerebrum. In shock the vertigo is due to the ischemia of the labyrinth or any portion of the cranium.

*Toxic Vertigo.* In this class we have probably the most frequent and most varied sources of vertigo. In fact a toxin from any portion of the body may be responsible for vertigo; sometimes by irritation, at other times by depressing the labyrinth. Most of the vertigos due to toxins are evanescent. In this class, without doubt, the most frequent and most popular is alcohol. In this case the patient, on account of the cerebral depression, is not distressed by his vertigo. If someone will produce an alcoholic drink that will affect only the labyrinth and cerebellum, and not the cerebrum, the millenium for the prohibitionist will be here. Others in this group are ptomaine poisoning, lead, quinine, salicylates, nephritis, gout and rheumatism. Also focal infection from any source, as teeth, tonsils, nasal accessory sinuses, gastro-intestinal and gall bladder disturbances.

Probably most of these do not produce any permanent effects on the labyrinth and cochlea, but there is no doubt that a few cases of the milder forms if continued over a period of

years, do permanently affect both the labyrinth and cochlea.

The toxins which produce a rapid and definite pathologic change in the ear (labyrinth) are syphilis and mumps. Also less frequently toxemias from the gastro-intestinal tract and those due to focal infection, namely sinuses and teeth.

*Lesions of the Ear Itself.* Any inflammatory condition of the ear causing vertigo should have the immediate and careful attention of the aurist. These affections may vary from an impacted cerumen to a suppurative labyrinthitis. Fortunately the latter condition is rare, as the effect of the toxins is usually sufficient to bring on irritation of the labyrinth before the actual suppurative process has reached it.

*Lesions within the Brain.* Here the lesion causes vertigo by affecting the intracranial pathways from the ear. In this class are tumors, thrombosis, hemorrhage, infarct, abscess, gumma, tubercle, multiple sclerosis, polioencephalitis and syringomyelia.

In summing up these few remarks I wish to leave the thought that the Barany tests will prove of distinct value in clearing up the diagnosis of many of these obscure cases of vertigo. If the ear tests show abnormal responses, they will also show whether the lesion is within the ear or within the brain.

If the responses are normal we have narrowed the diagnosis down to:

1. A functional neurosis.
2. An ocular disturbance.
3. An evanescent toxemia.

The ocular disturbance is readily recognized. As to the differential diagnosis between a functional neurosis and an evanescent toxemia we are confronted with a problem that will often take some time for solution, but if the Barany tests show normal responses we can feel perfectly safe in spending all the time necessary in making a diagnosis. We are not justified in making a diagnosis of functional neurosis until we have eliminated the possibility of a cardio-vascular disease and toxemia in any form. In investigating toxemia we must consider dietetic errors which are occasionally responsible for transient vertigo.

Citizens Trust Building.

## PSYCHOLOGICAL FADS\*<sup>1</sup>

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Fashion designers tell us that we are completing a cycle of years which has carried us back, in approximation, to the fashions and styles which were in vogue during the lives of our grandparents. A fashion makes its advent, catches the popular approval for a moment, as quickly comes into disfavor and is abandoned only to appear again after a period of years in a slightly modified form. Those who are enthusiastic about the fad or fashion after it has been reborn are usually not concerned about its past history, cannot be led to be interested in its relation to primitive times, and would deign to see the novelty removed by being convinced that it has contributed little beyond its mission to a previous generation.

At the present time we have a movement on foot in this country and throughout the world which is termed the "New Thought" movement, a type of philosophy which endeavors to explain and interpret many things. The mis application of the term, however, will not deceive those who look into the history of the principles which proponents of the system represent. The so-called "new thought," "new" or "applied" psychology is hoary with age. The philosophy underlying it was not new when Saul of Biblical times consulted the Witch of Endor for the purpose of receiving advice from the spirit of his departed counsellor and friend, Samuel. It was not new when the warrior of ancient Greece faithfully made his pilgrimage to Delphi with the hope of ascertaining the pleasure of the gods, and to divine his chances for victory in the impending conflict. It was not new when the primitive "medicine man" sought by means of wierd incantations to relieve the sufferings of his patient. It was not new when the unfortunate mediaeval accused, blindfolded, was required to walk down a row of hot plowshares unscathed, to be vindicated by public opinion. It was not new when the man who dared to express his independent

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<sup>1</sup>For a large portion of the rather general and cursory treatment herewith presented the writer claims little originality. It is in the main a rough synthesis of the writer's interpretation of prevailing psychological opinion, on the items treated, of the sounder type. For any point of view advanced, however, full responsibility is assumed.

views concerning religion was publicly burned at the stake as a heretic by the established church. It was not new when in 1850 an alchemist offered to enter into contract with the French Government to make gold for the French mint. It was not new when an outstanding Dutch anatomist and professor of medicine in the last half of the eighteenth century took the facial angle as a criterion for judging intelligence. From the earliest period which history records to the present time the mystical desire to follow prophetic vision, to inquire into the mysterious, and to consider man a pawn to be moved about here and there by fate on life's checker-board, has been supreme in the lives of many people. These hobbies or fads have moved in cycles, periodically returning to take root in the hysteria of abnormal periods and to be nurtured by the credulity of new generations.

Our period of readaptation following the World War, with its unsettled conditions, its industrial unrest, and its general dissatisfaction with the present social and moral order furnishes rich soil for the cultivation of pseudo-psychological fads and fashions. We have experts on "real success," "business" and "professional analysts," "character analysts," "spirit" or "soul analysts,"—those who claim to explain for us with little time and difficulty the mysteries of our personalities, and for a certain "fee" put us in harmony with the universe.

The tendencies which have been mentioned have taken varied forms during the several epochs of history. During earlier periods such tendencies expressed themselves largely through mystical channels, when there was crude effort made to use concrete things as symbols in thinking. Theory and faith were quite sufficient to give the true mystic a criterion for conduct; concrete evidences upon which to base belief being necessary only as tangible symbols representing fancied principles or personalities. Later periods witnessed crude but more systematic attempts to connect intangible theories concerning man and his present and supernatural destiny with tangible things. The differences between certain mystical and occult practices which survive in our present period, and which seem to be flourishing just now, and those practices and beliefs of previous times is that at present more energetic but feeble efforts are made to justify the

mystic theories on the grounds of science. In such efforts our present pseudo-scientists would cause our ancient and real mystics to blush with shame were it possible for them to see their work so degenerated and perverted.

One of the oldest types of philosophy which is thought of as in any way approaching a science, and which falls within the scope of the present subject, is known as "Physiognomy." This term is Greek in origin, and means "judgment by bodily appearance." Basis for such belief was found in the common and simple fact that certain of the emotions such as joy, anger, fear and curiosity make their expression on the countenance, and that by observation one can usually tell the gross nature of the emotional disturbance resulting from a period of stress. This, of course, is and always has been true. Before many years had passed, owing to the work of many who because of ignorance or for the purpose of gain and distinction are ever willing to take a simple truth and distort and pervert it, the system included an attempt to draw fine distinctions with respect to differences in intellectual capacities and emotional qualities, basing such distinctions on facial and cranial characteristics such as convexity and concavity of facial profile, shape of chin, or "type" of nose. Kant, an European philosopher of the latter half of the eighteenth century, was the last of the principal scholars to place a great deal of emphasis on physiognomy. It has remained for so-called scientists of our present era to dress the antique system of thought in new clothing, to embellish it to a point never dreamed of by those who inaugurated it, and designate it by a modern and dignified name which is popular with the unsuspecting. "Character analysis" is the modern term used for this ancient system of thought.

The most characteristic innovations in the so-called systems of character analysis of the present time arise out of the liberty of any proponent of the doctrine to introduce anything which suits his fancy and which at the same time proves to be entertaining to the credulous audience. People are classified according to angularity of profile, texture and color of skin, color of hair, type of general physique, such as relation of height to weight, etc., extent of adipose or bone tissue, and *ad infinitum*. There are a limited number of business men who are more anxious to inquire as



to whether an applicant for the position of stenographer or private secretary (and not on aesthetic grounds, either) is a blonde or brunette, than to try to ascertain the thoroughness of her education, or her attitude toward work. It is the belief on the part of many that the most successful executive is he who conforms more nearly to a "type," one of the most important qualities of which is mere ability to pull down the scales. Propagandists in endeavoring to justify such doctrines from the standpoint of science point to certain examples in verification of their hypotheses, and in so doing profane the very name of science. If mere proof consists of citing examples to justify each theory which has been advanced, then there is no reason why every theory advanced in all history could not have been amply justified, nor would it be inconsistent to assume that no theory which might be put forward in the future will go undemonstrated. Isolated examples can be cited to prove anything, and so long as we permit so-called scientists to select their own examples, that long shall we have our scientific conceptions resting on fallacy rather than on fact.

Studies indicate that where samples representing executives in general are taken, such samples are made up of representatives of all of the so-called "types" of the "character-analysts"; that men with broad chins and men with receding chins, bony individuals and adipose individuals, tall individuals and short individuals are granted a common degree of respect as they discuss big business plans across the same banquet table. Similar study shows that successful stenographers will be made up of blondes and brunettes, the percentages varying somewhat according to the preponderance of the respective "types" in the unit of population. In Jewish communities, for example, the larger percentage will be in favor of the brunette; in communities where Danes and Norwegians predominate, blondes will predominate. That there are emotional differences among races is plain. That such emotional differences may be observed as definitely as differences in complexion and other physical characteristics among individuals is not denied. That such emotional conditions can be definitely correlated with character qualities, however, is yet to be established. The only fair way to test any theory which is presumed to justify a certain standard or criterion is to take a fair sampling

of all individuals who are performing the particular task involved with varying degrees of success, and determine the extent of positive correlation between any physical characteristic of the worker with the corresponding characteristic set forth in the proposed standard or basis for comparison. Such correlations as have been determined thus far indicate that the degree of correspondence, if present at all, is so slightly positive that it is negligible. The foregoing brand of "character analysis" is, therefore, a fad rather than a scientific truth; the basis for it seems to exist in fancy rather than in fact.

A fad which was somewhat later in its development than physiognomy, but which represents, in the main, a similar type of speculation is known as phrenology. The shape of the head was held to be extremely important in the determination of "types." Bumps and depressions meant possession of certain qualities in great and small proportions. Phrenologists seem to have found a profitable business in the charting of heads for which a fee varying from fifty cents to five dollars was charged. Advancement of prices by the successors of the physiognomists and phrenologists indicate that in one respect, at least, they are quite up-to-date.

A paragraph taken from the work of a more recent writer on the subject is as follows: "No one of any fair degree of observation on being shown portraits of the philosopher, Emerson, the prize fighter, John L. Sullivan, and the capitalist, Andrew Carnegie, could fail to decide at once which was which. Prize-fighters have big, thick, strong heads. Unselfish philosophers have small back heads, but very high heads; while accommodating business men have broad faces, and usually heads long from front to rear rather than long in height." One wonders, after reading this statement, how the author failed to see so many potential prize-fighters in the pulpit, so many misguided youths capable of higher things aspiring to pugilistic honors, and why in the business world could be found "giants" who by their physical characteristics could have succeeded far better in some other field. One wonders why Daniel Webster was not a prize-fighter, and why Theodore Roosevelt enjoyed boxing as thoroughly as he enjoyed the fighting of his intellectual battles. The attention of those who may think phrenology dead is called to the recent statement of a lecturer who visited our city a

few months ago, that it was not phrenology he practiced, but scientific brain anatomy."

Both hysionomy and phrenology grew out of the ancient mystical desire to divine the future. The systems endeavored to find justification on the hypothetical assumption of certain parallels of relationships between physiological and mental activities. The science of psychology has never been able to establish any other than gross relationships between the nervous system and mental processes. We know that when certain cranial areas are injured or destroyed that certain bodily functions are interfered with, and perhaps certain members of the body paralyzed. A multitude of mental processes, the nature of which we understand slightly if at all, are served by the bodily tissues in emotional expression. When the central nervous system is rendered inactive through the administration of anaesthetics, so far as we are able to ascertain, all conscious processes cease. On the basis of these gross observations we form many hypotheses. We assume certain subtleties in connection with the phenomena of behavior as traceable to certain stages of nervous development or decay, to nervous conditions and activities. While laboratory experimentation has justified many of these theories, still we should not overlook the danger which is likely to accrue in disregarding the hypothetical nature of many of our basic assumptions. Certainly we should not permit pseudo-scientists to advance highly imaginative theories and justify them on the basis of a fancied relationship between the physiological and the mental.

A great deal is being said today concerning the supposed transference of thought from one mind to another by means of some agency or force which we do not understand. This theory is commonly known as telepathy. Popular speakers on the subject do not hesitate to glibly refer to the "law of telepathy." Various examples are cited as illustrations of the working of the "law" by people who are honestly convinced that it has merit. No scientist would be so arbitrary as to say that there could be no such thing as telepathy. The contention of science is that the theory has not had a sufficient number of positive illustrations under controlled conditions to justify its claim to "principle" or "law." When we think of a natural law, we think of something which will work in an observable way under definite conditions giving positive results. Without

taking the ground, therefore, that there can be no such phenomenon as telepathy, it is easy to explain certain experiences which seem strange and which are often explained on the basis of telepathy because no tangible cause for such experiences are observed, on other grounds than those of thought transference.

We have all marveled when two individuals think of the same thing at the same moment, not considering the fact that at the same moment the two or more individuals are surrounded by the same suggestive influences, and that stimuli to the senses of both are similarly received. While there are many individual differences with respect to natural endowment, differences resulting from variation in training and environmental circumstances, still as members of similar groups we react in the larger sense in a universal way. Thinking of this natural situation we could just as reasonably marvel at the infrequency of such coincidences as to be puzzled at the occasional one. Another type of example is frequently submitted as evidence of a "law" of telepathy. In a case of illness or of mental distress it is ascertained that at a certain moment when one individual is thinking of some definite phase of the disturbance, another friend or member of the family, even though many hundred or many thousand miles away, is thinking of the same thing. If such conditions were investigated thoroughly, it would doubtless be found that the different individuals have a common basis for appreciating the disturbance, perhaps through correspondence, telegram, long-distant telephone conversation, or by other media. Both being in similar emotional attitudes, is it at all remarkable that at occasional instances the two should think of the same thing at approximately the same time? I have never seen the citation of an incident in which stop-watches or other exact instruments of measurement were used in determining that such experiences occurred at exactly the same instant. In most of these considerations, too, we have altogether neglected the element of chance. People who have a common understanding about things will have thousands of similar thought experiences. According to the law of chance which is just as definite as the law of gravitation, certain of these thought experiences will occur instantaneously in the minds of different individuals. Telepathy is a fad in that thus far it has in no way been demonstrated

under controlled conditions, or other conditions which would seem to in any way justify it, and at the same time enters into popular thought to a considerable degree.

Another movement at the present time which is at the point of becoming a fad with many is the mental testing movement. A sane administration and use of sound psychological tests should arouse enthusiasm on the part of those who are interested in the study of personnel. Tests were used to good advantage in the United States Army in preparation for the late World War. They are being used to excellent advantage in the analysis of special abilities and disabilities of children in our public schools. They are being used in the work of vocational and educational guidance in our higher institutions of learning. We use such tests to good advantage at Bradley Institute. Parallel with the more conservative and critical administration and use of psychological tests is being developed a mania for testing which presumes to measure capacity for learning without having a clearly defined and definite criterion to follow in such measuring; to develop technique without first clearly analyzing the problem. Many of our sane and constructive psychologists are concerned over the possibility of this element so entering the philosophy of the testing movement as to determine the individual's intelligence quotient, with a degree of fatalism which would unjustly deny him certain opportunities in the more respectable fields. When we arrive at a place where intelligence can be as definitely measured as physical materials, then such attitude on the part of the mental tester will be sound, provided he thoroughly understands his field and has the proper human attitude. So long as intelligence baffles measurement, even in a small minority of cases, the tester cannot with safety assume a degree of fatalism which is possessed by some who are in the field today. Psychological or mental tests are making, and will continue to make, a permanent contribution to the cause of scientific education, progressive industry, and business. The most effective contribution will be made, however, after the mania for testing has spent itself. Those who at the present time are contributing to the sane side of the testing movement will stand supreme only after it is impossible for the pseudo-testers to confuse the issue.

One of the more recent intrusions into the psy-

chological field is the innovation known as Psycho-Analysis. The system consists of theories and doctrines which in the main rest upon the philosophy of Freud, an Austrian psychologist of our present period. It is the contention of Freud and his school of followers that the suppression of natural interests and instincts which begin to function early in childhood leads to conditions which account for various forms of mental maladjustment. Instincts, being anti-social, must not conflict with the ideals which the social group sets up. Education from its earliest beginnings involves certain definite degrees of restraint. Such inhibition and suppression result in a series of so-called "mental complexes."

A mental complex, technically defined is "an outstanding idea that dominates in the realm of the unconscious, and around which is grouped a phalanx of primitive, suppressed emotions. Such complexes invariably assert themselves in dreams, and form the underlying mechanism of a neuroses." These complexes, according to Freud, are apt ultimately to result in various forms and degrees of hysteria and other types of insanity, as well as a multitude of minor mental disorders. It is the further contention of Freud that most of these undesirable complexes result from the suppression of the sex instinct. An example, the most devastating of the complexes, as stated by a psycho-analyst, follows: "The Oedipus-complex originates in early childhood and consists of an over-attachment of a son to his mother. This is accompanied by a feeling of jealousy toward the father whose claim upon the mother's affections is opposed by the young rival." The mythical term selected by Freud in designating this complex as stated by one of his followers,<sup>2</sup> will further suggest its meaning. King Oedipus Rex, of Sophocles, was led by fate to kill his father and win his mother, Jocasta, for a wife. Hence the selection of the term to designate the attributed sexual feeling of the young son toward his mother. This term is also extended to include a similar feeling of a youthful daughter toward her father. It is Freud's view that this complex leads to many youthful and adult sexual inversions. Such complexes are traced as the cause of many adult practices the significance of which individuals involved do not understand.

The following quotation is taken from the re-

2. William J. Fielding, "Psycho-Analysis."



cent work of a present author on Psycho-Analysis: "According to this theory the curiosity which makes a man a scientist—let us say a microscopist—is traced to the early curiosity in looking-peeping, which has its object in seeing forbidden sexual objects or acts." If we take this statement as significant, then we shall have to think of Pasteur and Michaelson and other scientists on the one hand, and the "peeping-Tom" on the other as manifesting varying degrees of the same sub-conscious motive in following activities which give them pleasure. A second quotation from the same author: "We do many things in our waking hours of a symbolical nature, which satisfy our unconscious, without consciously understanding their real significance. For instance, we throw rice and old shoes at newlyweds without comprehending the true meaning of the act. Consciously we are following an old established custom; but unconsciously we are doing something more important. We are giving expression in a symbolical way to a wish that is quite appropriate for the occasion, and which our standard of ethics would not permit us to express in a more direct way." The writer here means the sexual phase of the new relationship.

While Freud recognizes the symbolical nature of many of our activities during waking hours, still it is his claim that the dream is the chief means whereby the unconscious may be penetrated. The dream is the expression of unfulfilled wish or suppressed desire. Restraining factors not operating, we express our real selves more truly in our dreams. The observed facts that many dreams are a jumble of images which as a whole seem to have no particular meaning is met by the counter-proposal of dream symbolism. When explained in terms of such symbolism an otherwise chaotic and disconnected dream takes on the deepest significance. Analysis of dreams and other mental processes gives the psycho-analyst basis for his diagnosis. The most elaborate claims are made for such diagnosis and practice, typical of which is presented in the following excerpt. "Psycho-Analysis brings to the sufferer from psychic hurts and soul wounds his first opportunity for scientific diagnosis and curative treatment, and renders to him a similar service that surgery does to the physical body."

These several illustrations have been offered

to indicate the length to which psycho-analysts go in the elaborateness of their claims. Evolution of these theories may be made, it would seem, in fewer words. That certain forms of hysteria, shell shock and insanity, result from mental disturbances some of which have their basis in the inhibition of natural and instinctive forms of expression, will, it would seem, go unquestioned. The claim that such mental states can be easily diagnosed and treated, however, we should hesitate to accept in the light of our present experience. Necessity for using symbolism which is presumed to be the language of the unconscious or subconscious, that large field of mental activities which is professedly but slightly understood, in explaining conscious effects seems a paradox, particularly when such explanation is supported mainly by theory of the most unusual sort. The claim that repression of the sex instinct forms a basis for most of our subconscious processes revealed in the dream, and indirectly in other ways, seems to have little to support it as a generalization, notwithstanding the tremendous importance of the sex instinct in common human experience. Psycho-analysts take little time to deal with the common and natural observation that a large part of one's dream experiences seems to be a sort of random and disconnected continuance of his associations and experiences of the waking period shortly previous. The order in which repressed instincts would assert themselves through the media of mental complexes, it would seem more rational to argue, would most probably correspond to the extent to which such instincts assert themselves in waking consciousness, since, so far as we know, the subconscious mind is pretty largely a by-product of previous conscious activities. Concerning the possibilities of analysis of this automatic and intangible field of mental phenomena commonly referred to as the "subconscious mind," the science of psychology should hold an altruistic view. In the presence of unique theories which grow out of no very systematic investigation or practice, however, psychology should assume the role of the "doubting Thomas." The work of the psycho-analysts has been and will continue to be most stimulating; it will doubtless have performed a useful service in beckoning us into new fields.

There are many other psychological fads which cannot here be discussed owing to limitation of



space. The claim that genius can be developed irrespective of one's inherited capacity is contrary to physiological and biological law. The claim that the individual can attain to any height of which he is capable of dreaming, irrespective of mental handicaps, is vicious in the extreme. It allures many to the "end of the rainbow," the "Utopia" which does not exist. The assumption that there is a subconscious mind which is an endowment at birth, that is independent of our experience and environmental circumstances and conditions, and which can correct the impressions of a score or more of years in a very brief period of time and with very little activity, is derogatory to the cause of our constructive educational, social, and moral order. Theosophy, astrology, spiritualism, and many other "cults,"—ancient, mediaeval, and occult survivals which seem incongruous in our present period, are still with us, parading in polite circles under masks which camouflage but feebly.

The degree of pessimism with which we are wont to view the general credulity of humankind is hardly justified, as we see, when the characteristic is traced to its source. Our eternal tendency to indulge our fancy in following the lure of the mystical and mysterious is not in itself to be deplored. We are all credulous, more or less, depending upon our degree of understanding of the circumstance or activity which invites our attention at times when we are in a playful or fanciful mood. The same longing which calls forth an audience to hear the presentation of a subject such as "telepathy," "character analysis," or "spiritualism," is the same as that which makes the ghost scene in "Hamlet" the most appreciated scene in this play for many people; the same as that which initiates a constant stream of record-breaking patronage to the presentation of such a play as "The Bat," a production which has little real literary merit but which makes itself irresistible through its rapid series of mysterious situations. A godly portion of that clientele which pays little attention to the announcement of the scientific discovery of a cure for some baffling disease flocks to the temporary quarters of the self-announced expert who claims to possess some unique formula or faith cure, and who after a brief period goes on his way as mysteriously as he came. The fanciful is not satisfied by the commonplace. The laboratory discovery, having little romance about it, does

not harmonize with the fanciful mood. The tendency to ever look forward, even though such inclination may have as its foundation little more than the elusive day dream is the token of progress. At playful moments the imagination through the trial and success method lays the foundations for many of the permanent structures of the future. To confuse such mental activity with scientific thinking, however, is as unjust to fancy as it is to science.

The writer has taken a degree of pleasure in treating negatively the items here presented, only in that such a negative treatment seemed necessary. To have dealt with positive factors which are enabling the science of psychology to look hopefully toward the future with a degree of assurance peculiar only to our period, would have given a greater degree of personal pleasure. As a word of explanation it should perhaps be added that the lot has to be cleared before the new house can be erected; that the case of the sick patient must be diagnosed before suitable remedies can be prescribed. In analyzing our ever present and obvious case of psychological hysteria an effort has been made to briefly take into consideration some of the grosser symptoms. If the diagnosis herewith presented seems to be superficial, your attention is called to the grave series of complications that baffle the fine and critical technique of expert diagnosticians. It is hoped that by virtue of the complex situation involved, the mind of the critical auditor may be moved with a degree of tolerance as he evaluates the purposes of the paper.

It is not the province of science to look forward to the time when there will be no pseudo-scientists and quacks. It is the duty and obligation of science, however, to endeavor so to direct and wield constructive public opinion as to make confusion and misinterpretation impossible. There could be no more fitting close than a statement in his own words of the timely warning given by one of our constructive authorities:<sup>3</sup>

"It is particularly the obligation of the torch-bearers of science to illuminate the path of progress, and to transmit the light to their successors with undiminished power and brilliancy; the flame must burn both as a beacon-light to guide the wayfarer along the highways of advance and as a warning against the will-o'-the-wisps that shine seductively in the by-ways."

3. Dr. Joseph Jostrow, "Fact and Fable in Psychology."

## THERMAL EYE TREATMENT

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CHICAGO

To start out with certain fundamental premises may perhaps make my theme clearer.

*A Simple Chemico-Physical Illustration.* In the process of oxidation or other similar chemical reaction, heat is set free. This holds true in the case of a log, whether the log be set on fire and consumed in a few hours, or whether the oxidation take place through the much slower process of decay lasting over a period of years. The amount of heat set free in both cases is necessarily the same, and that it is very considerable everyone knows who has ever had the experience of being in close proximity to a log fire. In the case of a log decaying, however, the process of oxidation being spread over so long a period, the amount of heat generated and liberated at any one time becomes imperceptible, but the law of the conservation of energy and of matter teaches us that the end results are the same, and that the same amount of heat has just as certainly been released in the one case as in the other.

*Effect of Heat on Body-Tissues in General.*

While it may now be granted that oxidation produces heat, the converse is not necessarily true that heat produces oxidation, but heat is necessary to, and productive of, certain chemical changes, and the point I wish to make is that, having still in mind the same laws of nature relating to the conservation of energy and of matter, if we parallel reversely the process of the two methods of oxidizing the log, then we come to the conclusion that, whether the heat be applied all at once (the reverse of the chemical process which takes place when the log is burnt up), or whether the heat be applied for a long time very mildly and almost imperceptibly (the reverse of the chemical process of slow decay), in either case the end result is the same, the only difference being in the speed of accomplishment. This is subject to the modification, of course, that certain temperatures may permit or encourage bacterial intervention, and also, that this discussion relates to living tissues, and that, in so far as heat deprives those tissues of their fluid content, where this is done slowly, such fluid may be (at least in part) replaced by the circulation, and the heat action upon the tissues

is somewhat, but not wholly, thereby minimized or mitigated. Indeed, I make bold to say that even these very fluids which I have been relying upon to mitigate the action of the heat upon the body tissues, to some extent themselves help to bring about tissue changes by reason of their circulating through the tissues at or near the body heat of 98.6 degrees F. At certain given low temperatures, such as we find in cold storage houses, we see that oxidation or decay of organic bodies, e. g. food, is practically suspended, and there are all grades of speed of oxidation or decay (I do not hold these to be strictly synonymous) between practically complete suspension of same, and the rapid destruction of food by fire. We do not here consider the part played by bacteria whose growth is inhibited at the low temperature, for the chemical reaction of oxidation takes place, though slowly, even where it is too cold for bacteria to thrive.

*Heat (Even Normal Body-Heat) as a Cause of Cataract.* As applied to the crystalline lens of the eye, whether the heat acts by coagulating the lens substance, or through the extraction of the moisture from the individual cells composing it, at a greater speed than the circulation resupplies that moisture, or whether the heat in question proves to be the last straw when added to the body-heat already there, causing either connective-tissue changes or sclerotic changes in the tissues, is immaterial to this theme,—it is enough if the heat causes in any manner opacities of the lens, regardless of the theory as to the pathology of its occurrence. Is it extravagant to claim that, just as brittleness of bones is the normal and physiological consequence of old age without looking for any definite disease as a cause, so, the maintaining of the delicate crystalline lens at body-heat of 98.6 F. throughout a long life, would make it appear almost miraculous if no tissue changes took place which caused opacities.

*The Heat of Fever.* Indeed there is good authority for expecting tissue changes when the heat only slightly exceeds body-temperature. Osler<sup>1</sup> says: "Fever, *per se*, increases the disintegration of protein. A high temperature increases the cellular hydrolysis. All fermentive reactions are accelerated by increase of temperature within certain limits, and it is theoretically possible that the increased combustions in simple fever are the direct result of these." "The

febrile infectious diseases, especially of the acute type, may be accompanied by very marked increases in the protein katabolism." "A further specific factor is the continued new formation and simultaneous destruction of cells in inflamed areas." (p. 667.)

*Long-Continued Heat.* There is plenty of authority to the effect that heat, even if not of an immediately destructive type, when long continued causes opacities of the lens.<sup>2 5 6 4 7 9</sup>

*Heat Coincident With Light.* Some speak of exposure to intense light as being a causative factor, but this again brings us right back to the heat proposition, because it is well known that most light rays are accompanied by heat rays, and that light and heat are associated forms, if not the same form differently perceived, of motion. The manner of perception is merely a question of wave length; wave lengths between about 0.000039 cm. and 0.000075 cm. produce color sensation upon the human eye, while wave lengths from 0.00004 cm. to 0.007 cm. register thermometric changes.<sup>3</sup> Thus perceived heat and light waves are found to be very similar as to measured wave lengths.

*Climate.* So we find that in countries where light and heat are more intense than in the temperate zones, there is a greater prevalence of cataract, and when it comes, it arrives at an earlier age. " \* \* in India the majority of patients with cataract come to operation at 40 years or thereabouts."<sup>4</sup> Consulting our own experience, we know that the most comfortable atmospheric temperature is one considerably below body-heat, and that an atmospheric temperature of body-heat, or very slightly above it, is considered extremely hot.

*Heat Causes Pathology at Slightly Above Normal Temperature.* On this thought Osler<sup>1</sup> says, p. 331: "In *Sunstroke* temperature is raised to 104° or 105°, and in very severe cases to 108°; in some cases the temperature reached 112° to 113°." p. 332: "Vallin at first believed that death was due to heat coagulation of the cardiac muscle. Hirsh believes that the cause of death was an alteration of the blood. \* \* More recent investigations tend to the conception of a paralyzing action on the nervous system, and some toxic element with the probable result of metabolic changes in the neurons \* \*." p. 334:

Treatment by ice packs, ice water, etc., recommended where the temperature is over 104°. This is all pertinent as indicating the slight degree of temperature above body-heat at which recognized rapid pathology begins, having in mind, not the highly developed and very sensitive tissue of the eye, but body-tissues as a whole.

*Effect of Various Temperatures.* Coming back to the eye, however, Parsons<sup>5</sup> has gathered the following: "The lens becomes opaque on heating to 80° C., owing to the coagulation of the proteids, and this opacity of course is permanent (v. Michel). The temperature may be slowly raised to 65° C. without causing complete opacity (Daddi). Crystallin A, coagulating at 72° C., is predominant in the cortex, crystallin B, coagulating at 63° C., in the nucleus (Mörner)." It is to be noted that these temperatures are considerably below the boiling point of water,—the application of which thought will shortly appear.

*Glass-Blowers.* "The causation of cataract in glass blowers is interesting in this connection (Meyhöfer, 11.6 per cent. in 506 glass-blowers, Röhlinger, 7.6 per cent. in 287, Robinson). It cannot be due to mere raising of the temperature of the lens, since the aqueous is a bad conductor of the dark heat rays, and the temperature could not be raised to the requisite extent without burning the cornea: molten metal may indeed cool between the lids and the globe without producing cataract. The cause is probably to be found in the enormous increase of evaporation from the surface of the cornea, aided by the continual sweating from the skin. (Leber),"<sup>5</sup> "(p. 762) Robinson believes that the excessive heat of the gas furnaces is the cause of the disease (*Bottle Finishers' Cataract*), an opinion borne out by the fact that the frequency of cataract in bottle makers is in proportion to the extent and length of exposure of the eyes of the different classes of workmen to the fierce glare of the tanks. A shrinkage of the lens substance (drying) caused by the prolonged exposure to the great heat may cause a slight separation of the lens fibers from the capsule."<sup>6</sup> Fox says with reference of the etiology of cataract: "Occupation seems to exert some influence in its production, as glass blowers and those exposed to high degrees of light and heat are affected with enormous frequency."<sup>4</sup> From DeSchweinitz,<sup>7</sup> p.



400: "The late D. W. Greene studied the relationship between increased blood pressure and the formation of cataract, and believed that increased arterial tension exerted a certain influence in the causation of lenticular opacities." "Cataract is especially frequent among glass blowers, and is attributed to the effect of the radiated heat and excessive perspiration. \* \* It is not improbable that additional investigations, such as the author made years ago, would show the same liability to cataract in *puddlers* and others exposed to intense heat; indeed, Cridland has observed in *furnace workers* cataract resembling that which is frequent in glass blowers, to which the name *furnace workers' cataract* has been given." Rosenau,<sup>9</sup> p. 1072: "There is more than a suspicion that cataracts, retinal and choroidal changes or chronic conjunctival lesions are brought on in glass blowers, and perhaps also in iron puddlers and other persons whose eyes are exposed to very intense heat and light. De-Schweinitz states that he can often tell whether men working at puddling furnaces are right-handed or left-handed, by studying the effect of this exposure on their eye grounds." p. 1022: "Czerny observed lenticular opacity in the rabbit and toad following short application of direct *sunlight* by a convex lens. Werneck and M. Langenbeck obtained similar results." p. 1024: "The prevalence of brilliant sunlight and heat in India has been considered as the cause of the frequency of cataract there." p. 1022: "Widmark caused slight opacity in the rabbit by prolonged action of concentrated light from an *arc lamp*; he attributed it to the ultra violet rays." p. 1024: "Leber attributed it (*lightning cataract*) to coagulation of the lens substance due to catalytic action, though he has since rejected this view; Silex to *albuminous coagulation due to temperature*."

#### HEAT, NOT LIGHT, AS CHIEF FACTOR

Fuchs,<sup>8</sup> p. 546, mentions that Burge regards light (rich in ultra violet rays) as the cause of cataract, but that according to Verhoeff and Bell, heat, not light, is the chief factor in causing it.

Prof. Van Der Hoeve has recently made claim that cataract is caused by the ultra violet rays, and not by the heat rays, and cites (*Cataracts in the Arctic as well as on the Equator*) as proof of the fact that cataract is almost as common among the eskimos in the bitter cold arctic

regions as it is among the inhabitants of India in the intensely hot regions, and that even in India the inhabitants of the higher altitudes in the mountainous regions, where it is not so hot, are subject to the same pathological changes. The answer to this is that *cold does not intercept heat rays*, any more than cold intercepts light rays, both the heat and light being quite likely the effect of but one thing, namely, waves of motion differently perceived. Whatever may be the explanation of light and heat, we know by common experience that the heat of the sun comes to the earth unimpaired by the thousands of miles of intense cold which it traverses before it strikes the heat-retaining envelope of air which surrounds the earth. That intense cold exists beyond the lower heat-retaining envelope of the air is vouched for by all aviators, who dress for intense cold in making altitude flights even in the heat of summer; and is vouched for by anyone who has climbed a high mountain, even in equatorial regions.

*Prevention of Radiation Important.* In spite of that intense cold, under the envelope of air which prevents rapid radiation, we experience the most intense heat in summer. Also many must have experienced, on a bitter cold day, the uncomfortably hot rays of the sun shining through the window of a railway car, where the glass and contained air prevent the rapid radiation of the heat which had come practically unimpaired through the thousands of miles of ether, and then through the bitter cold atmosphere.

*Cornea Prevents Radiation.* The cornea may be considered as the heat-retaining envelope, acting the same as the atmosphere to admit the sun's rays, but preventing too rapid radiation; and the crystalline lens may be considered the same as the individual who feels the heat inside of the heat-retaining envelope of either the atmosphere or the railway car window, of which the cornea is a parallel. The cornea not only

#### Cornea Also a Condensing Lens

acts as a heat-retaining envelope to the crystalline lens, but also because of its convex shape, it serves to concentrate and intensify those heat rays on to the crystalline lens.

As a result, whether the eye in question is in the frigid arctic regions, or in the heat of the desert, the heat manifestations of the light rays are retained in the lens by the heat-retaining



envelope of the cornea and the aqueous humour.

*Snow and Sand Intensify Light Heat.* An explanation of why cataract is more often found in the arctic regions, in the mountainous regions, and in the torrid zone of India, is that in the cold regions or mountainous elevations an abundance of snow reflects and intensifies the waves of motion which produce heat as well as light, and so also in the torrid zones where there is a brilliant more direct sun or where much sand causes reflections of the heat waves the same as snow would. In the more temperate zones we have neither the excessive reflections from the arid sand nor from the abundant snow, nor the direct intensity of the sun itself—hence cataracts are not as frequent, nor come as early in life in the temperate zone.

*Mild Heat Causes Pathology.* The point I have been trying to make is that heat, even of so mild a degree as in fever, as shown above, is productive of pathological tissue changes, and that, having in mind the example of the slow oxidation of a log without conflagration and without the production of perceptible heat, and considering the converse of that process, we may reasonably conclude that the long continued application of so mild a degree of heat as that furnished by the blood itself at a normal temperature, will in time cause tissue changes beyond normal metabolism for which normal body-heat is necessary, which changes may simulate pathology resulting from a shorter application of a greater degree of heat. I have not attempted to decide what that pathology is, whether coagulation of the proteids,<sup>5</sup> shrinkage of the lens substance and separation of the fibres,<sup>6</sup> or metabolic changes in the neurons;<sup>7</sup> the principal idea of interest is that it seems quite universally agreed that some pathology takes place, and that when such pathology attacks the eye, opacity results. ADVOCATING THAT HEAT, IF USED, SHOULD BE

#### UNDER STRICT SUPERVISION

Having these premises in mind, are oculists justified in recommending optionally the use of intensely hot applications to the eye, as well as cold, and often preferring the former? Where it is practically universally conceded that heredity plays an important part in cataract formation, is not the indiscriminate use of hot applications to the eye for lid or conjunctival troubles, like "jumping out of the frying pan into the

fire"? Is it not adding a greater insult to a minor injury? The patient is taught the advantage of hot applications, and frequently of his own accord, without consulting his physician, will make use of it. The use of hot applications has become time-honored. Who can say, in the face of the known effect of repeated exposures to heat, that many of the lens opacities or cataracts which we see today, are not the result of heat applications oft repeated, added to a predisposition, or to the insults of fever-heat during past sickness, or even to long-continued normal blood heat in senile cases.

*Unmeasured Heat Popularly Recommended.* That heat applications are advocated as a matter of course and of precedent by the best of our ophthalmologists is readily seen by looking into any work on ophthalmology. Wood,<sup>8</sup> p. 82, says: "Cold or iced applications should not as a rule be used as long or as often as hot applications. \* \* Cold applications should not cause pain or discomfort; if they do, they must be discontinued or replaced by hot fomentations. Cold is generally employed in superficial inflammations of the eye ball and lids, \* \* \* but is to be avoided when the cornea becomes affected." Fox,<sup>4</sup> in speaking of the treatment of conjunctivitis, "if the hyperemia is active, cold applications are indicated, if passive, hot fomentations should be tried." Otherwise Fox says little or nothing about using heat. Weeks (p. 307) advocates moist heat for several conditions. DeSchweinitz,<sup>7</sup> pp. 188-193, advocates frequent bathings with hot water. Fuchs,<sup>8</sup> pp. 56, 190, 200, describes the various means of applying heat to the eyes for therapeutic purposes; and advocates hot moist compresses several times a day for one or two hours at a time. Wood,<sup>8</sup> p. 83 et seq., goes into detail:

Heat in eye surgery is generally applied in the form of moist applications. Dry heat is sometimes used, but its action does not seem to be as effectual in promoting absorption of the products of ocular inflammation as the moist forms. \* \* \* A simple and easy plan is to take an ordinary saucer and place it in the oven until it is too hot to handle. It should then be wrapped in a piece of flannel which has been well heated, and applied over the eye and surrounding parts, previously filling in the depression around the eye ball with warm cotton wool. The whole dressing should then be kept in place by a bandage. P. 83: Several workers have devised methods for applying heat directly to the eye ball. For example, Ostwalt has invented an appliance called *Thermaerophore*,

which essentially consists of an elastic bulb and spiral tube, and a soft rubber cup (with attached thermometer), large enough to fit over the orbit. Fresh air is driven by the bulb into the spiral tube which is placed over a Bunsen burner and the air heated by these means is then forced into the rubber cup. The dry superheated air can be borne at a temperature of 100°, 150°, or 175° C. Treatment given once, or occasionally twice a day is continued for about half an hour. The apparatus is intended to be used by the patient himself.

I do not understand that Wood himself advocates this, but that he is merely reporting Ostwald's idea for whatever it may be worth. *In spite of the fact that the lens coagulates at from 63° to 72° C.*<sup>5</sup> we find a man like Ostwald (who is prominent enough to be quoted) advising the use of heat as great as 100°, 150°, or even 175° C., and the apparatus was designed to be used by the patient himself.

Another apparatus is described<sup>6</sup> for delivering hot moist steam at 40° to 45° C. Leiter's coils are mentioned, also hot moist applications for continuous use. "Hot applications to be of any therapeutic value should be applied every hour or two (depending upon the severity of the case) and for ten or fifteen minutes at a time. The temperature of the applications should be as high as can be endured, 115° to 120° F." Hot water bottles and the electric iron are also mentioned.

The widespread education of the public to use hot applications, together with the long-delayed effects of such applications of heat, causes the dangerous oblivion. The comparatively small number of cataracts, so-called, which we find in this country, is no contra argument. All ophthalmologists know that there are countless patients who finish life's journey with lenticular opacities that are not dignified by the name of cataract, are never operated upon, but which nevertheless impair visual acuity.

#### ADVANTAGES OF THERMAL TREATMENT OF OTHER TISSUES NOT PARALLEL IN TREATMENT OF THE EYE

The results of inflammatory or heat changes of protoplasm or tissues in other portions of the body are not fraught with such evil consequences as in the case of the highly specialized and transparent structures of the eye; muscle tissue, cartilage or skin, through inflammatory or heat changes, may become more impervious to light, without suffering the slightest impairment of

function, but it is apparent that in the transparent tissues of the eye, such a change would be fatal to the function of that tissue; hence the precedent of thermal treatment of other portions of the body should not be blindly followed.

*Cold Applications to the Eye.* What about the use of cold? Cold of course is a negation or absence of heat—a lower degree of heat—and within ordinary limits it merely retards change, that of normal metabolism, as well as that of pathological degeneration; it tends to preserve the statu quo. "If a frog is frozen the lens becomes opaque before the animal dies, the opacity disappearing on thawing (Kunde)."<sup>7</sup> Continuing: "If the human lens is frozen it becomes completely opaque, and on thawing clears up. \* \* \* Leber found that the opacity in the frozen calf's lens was simply due to the increased refractive index of the frozen lens-fibres."<sup>8</sup> "In many new-born or very young animals, cooling to nearly 0°C. causes opacification of the lens, which disappears at a slightly higher temperature."<sup>9</sup>

And, in many instances the use of cold will counteract the effects of local inflammation, and while natural repair may be thereby retarded, yet the end results of the heat of the local inflammation may be also thereby mitigated. Sometimes, it is true, hot applications are received more gratefully than cold, but in most cases of this kind, a simple wet boric compress, which is applied lukewarm and allowed to assume the body temperature, may frequently give as much relief, and leave the satisfaction of not having contributed to the formation of lenticular opacities.

Of course, cold applied to the living tissue to the point of interrupting circulation, causes damage, due, not to the cold, but to the lack of blood supply. The cold *per se* causes no chemical or physical changes, but only indirectly by impairing circulation. So I do not advocate extensive use of extreme cold. Either extreme is bad, but in using a slight departure from body-temperature, cold is preferred for reasons herein stated. However, we have so many therapeutic measures at our command, that in many cases thermal applications can be dispensed with entirely.

#### SUMMARY

1. Long continued applications of mild heat have the same effect ultimately as shorter appli-

cations of more intense heat, considering the law of the conservation of energy and of matter.

2. Heat coagulates body-tissue, or at least produces pathology.

3. Cold (absence of heat) does not cause permanent tissue change, when not carried to the point of preventing circulation; and experimentally a frozen crystalline lens has returned to transparency upon thawing.

4. Heat from various sources causes body-tissue change—such as furnace heat (on glass-blowers and puddlers and possibly bakers), heat of sun's rays; also milder degrees of heat, such as fever, and, it is argued, such as even normal body-heat acting over a long period of time.

5. Heat rays accompany light rays, and neither are retarded by cold. It is merely a question of having an envelope which the heat rays can penetrate, but which prevents radiation. The cornea acts in that capacity to retain heat in the crystalline lens. The cornea, also, as a convex condensing lens, intensifies the heat rays upon the crystalline lens.

6. If muscle tissue or skin is made less translucent through changes caused by proper therapeutic heat applications, no impairment of function may result, but such a change would be fatal to function of crystalline lens, which therefore cannot be treated the same as other tissue.

7. Hot applications frequently added to a predisposition towards cataract formation, may become insidiously dangerous, and may cause opacities which are not dignified by the name "cataract", but which nevertheless impair vision.

8. Hot applications are frequently prescribed in eye cases for unlimited home use by patient. A plea is made for the use of other therapeutic measures if possible, and where hot applications seem absolutely necessary, then strict medical supervision and proper cautioning of patient is urged.

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## DIAGNOSIS AND MANAGEMENT OF OCCIPUT POSTERIOR POSITIONS\*

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The management of occipito-posterior positions is exceedingly important for the reason that fetal mortality and maternal morbidity are exceptionally high. There are perhaps more babies lost in these cases than in any other single obstetric presentation. The reason for this is the failure on the part of the physician to understand thoroughly the mechanism of labor in the posterior position and his failure to make a diagnosis previous to the onset of labor or early in labor. The high mortality and morbidity are especially seen in cases delivered by forceps. Cragin gives the following statistics:

In 20,000 cases there were 337 persistent occipito-posterior positions or 13 per cent. In this number there was one maternal death from sepsis. The fetal mortality was 78 or 23 per cent. Stillbirths numbered 45, while 33 died before the mother left the hospital. Difficult labor accounts for 23, accidental hemorrhage for 3 or 26 cases which justly could be charged to the deliveries. This gives a fetal mortality of 7.66 per cent., due to the delivery—much too high.

The diagnosis of occipito-posterior positions sometimes presents difficulties but, if the condition is borne in mind at all labors, it will be discovered more often than it is at present. Many times inspection gives us a clew. There is a hollow area over the pubis. It is frequently 2 or more inches in width and about 3 inches long. It runs almost parallel with Poupert's ligament. The greater portion of the hollow area is on the side opposite the back, i. e., in right positions it is located on the left side of the median line. The small parts are often seen moving over the greater part of the anterior abdomen. If not seen they can be readily felt. There seems to be a profusion of small parts. The anterior shoulder is also felt far out of the median line. The back is felt in the flank and the fetal heart is usually heard in this position. Occasionally it is transmitted through the chest wall and is heard best near the median line. The forehead is often palpated above the ramus pubis.

Rectal examination made early in labor re-

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veals the head high up and external os in the hollow of the sacrum. If the cervix is open enough to admit the finger the large fontanelle will be found either near the center of the pelvis or anterior to it. The small fontanelle, if felt at all, is near the hollow of the sacrum. The head may enter the pelvis partly deflexed, hence the difficulty of locating the small fontanelle at times.

A little later in labor it is noted that there seems to be some delay in the mechanism. Progress is not made and the pains are weak and irregular and the patient begins to complain bitterly of backache. The head does not descend, the cervix remains stationary and the membranes rupture early. Or, if descent takes place, the head sticks in the transverse diameter and becomes arrested and a large caput forms. Rectal or vaginal touch reveals the sagittal suture in the transverse diameter. Still later, the mother shows signs of exhaustion, the pulse rising and becoming weaker. The face becomes drawn and the lips parched. She pleads for relief.

I wish briefly to call to mind the mechanism of labor in the right occipito-posterior position. The head engages in the right oblique diameter. Occasionally the head remains high up and will not engage. Fortunately this is rare. The occiput points posteriorly, usually slightly forward of the sacro-iliac joint. Along with engagement there is a tendency toward flexion, but the head is seldom flexed as much as in anterior positions. As soon as the head reaches the pelvic floor it has a tendency to rotate anteriorly in a large percentage of cases. The head had to rotate through an arc of 135 degrees, 90 degrees farther than the anterior variety. During this increased rotation the head descends the same distance as the anterior variety. Therefore, it travels in a circular manner three times as far with the same amount of descent. This requires considerable force on the part of the uterus and very often a great deal more time which accounts for the fact that these patients are in labor so long. Remember also that the cervix does not dilate well, and frequently dilation and rotation have to go on more or less simultaneously. Rotation is seldom completed until the cervix is fully dilated. After rotation is completed the mechanism is the same as in occipito-anterior positions.

In a few cases the occiput fails to rotate an-

teriorly but does rotate posteriorly. The occiput then travels through an arc of 45 degrees. This looks as if labor ought to be less tedious. Such unfortunately is not so. Labor is usually long and drawn out due to the fact that the head descends in the military attitude, which brings the larger diameters into relation with the pelvic inlet. The uterus must mould the head, causing it to become dolicocephalic. The back and head have to pass through the birth canal together, producing more or less impaction. The delivery takes place in one of two ways. Extreme flexion may take place. The head is forced downward and backward against the perineum which bulges frightfully or tears badly. The forehead stems under the pubis and the occiput then emerges over the torn perineum until the nape of the neck appears. The face is born by extension.

In the second method the head extends—the brow appearing at the vulva, the glabella stems behind the pubis. The occiput is born. This causes more distention of the perineum, hence is less favorable. Lacerations are much more severe. After the occiput is delivered the face is born by extension. With the rest of the mechanism you are all familiar.

Now we come to the management of these cases. For the purposes of discussion we will deal only with primipara because labor is usually much longer in these patients than in multipara. It is essential that the diagnosis be made early. Every case in labor should be examined at the earliest moment. At the Chicago Lying-in Hospital, on admission, the blood pressure is taken, the abdomen palpated, the presentation and position determined, the fetal heart tones taken, the baby's weight estimated and a rectal examination made. If an occipito-posterior position is found, the consistency and dilatability of the cervix is estimated. As soon as the pains are well established the progress of dilation is closely observed. If it seems to be slow, it is my custom to administer morphin, gr.  $\frac{1}{4}$ , with scopolamin, gr.  $\frac{1}{150}$ . This is administered early in the first stage of labor, long before the patient shows signs of exhaustion. This is essential. I believe most of us wait too long in these cases to use this valuable aid. The cervix in most instances will dilate promptly. I have seen complete dilation take place in three hours. Just recently a patient was in labor eight hours with no progress. The cervix dilated to 2 cm. when



the morphin and scopolamin were given. She delivered spontaneously in 3 hours and 45 minutes. Aside from the effect on the cervix the patient is relieved considerably of the backache. My statistics show that I have cut down the average length of the first stage over 20 hours. I ascribe this result to the early use of drugs. The late use will not produce results, because the patient is tired, the reserve is gone. Occasionally it is necessary to repeat the scopolamin (gr. 1/200) once or twice. This I do at two hour intervals, first examining the cervix rectally. If I find it dilated to 8 cm. +, I never give more.

If the cervix fails to dilate after three or four doses of scopolamin are given, I allow the patient to wake up. If the pelvis is normal a Voorhees bag is inserted (7 to 10 cm.) depending on the dilation. A pound weight may be attached if necessary.

The patient is allowed to wake up as soon as the cervix is dilated to 8 cm. +. If the bag of waters is not ruptured when the dilation is nearly completed, it is ruptured artificially using the Hillis probe.

In many cases delivery takes place spontaneously or at least anterior rotation occurs. If the latter, it is an easy matter to apply the low forceps and complete the delivery. It so happens occasionally that the uterine force is expended on turning the occiput and little is left for expelling the child. It is in this class that low forceps are used.

There is another class in which rotation does not occur and in which the cervix does not dilate completely. The cervix does dilate usually to 8 cm. at least. These patients should not be allowed to labor an indefinite time because there are too many risks. Sepsis is liable to occur regardless of whether vaginals have been made or not. The uterus is exhausted and its resistance is lowered. The lower uterine segment may thin out, forming Bandl's ring. Thus thinned it is liable to rupture. In fact, I assisted at a Krönig Cesarean section in which the segment was ruptured. Fortunately the peritoneum over the rupture was intact. Again, the fetus may die *in utero* or the constant pound of the uterine contractions may cause brain hemorrhage with its subsequent Little's disease, etc. In these cases it is best to interfere. Just what method of procedure to choose is difficult to state. It is a matter of judgment. Given a normal pelvis,

a moderate sized child and a cervix dilated 8 cm. +, Duhressen's incisions, manual rotation of the head, holding it in place with volsellum forceps and the application of forceps is the usual procedure. If the mechanism of labor is understood, the delivery is easily accomplished with little damage to mother or child. Occasionally it is necessary to push the head out of the pelvis, and with the tips of the first two fingers get a purchase on the posterior shoulder and swing it past the promontory. This places the back anterior. The hand outside helps by pushing the anterior shoulder toward the opposite side of the pelvis. The inside hand then guides the head into the pelvis. It is brought down as far as possible when the forceps are applied. This manoeuvre must be done under deep anesthesia and the liquor amnii must not be drained out completely. I have had no occasion to use the forceps to rotate the head. The Scanzoni manoeuvre in the majority of hands is a dangerous procedure. The pelvic soft structures are apt to be torn from their attachments. On several occasions I have been forced to apply forceps to the head in the transverse position. A few trial tractions are made with the blades loosely locked. The head has rotated inside the blades in the majority of instances. It will do so provided the pelvic floor offers resistance. When the head has rotated to the oblique diameter the forceps are adjusted to the sides of the head and delivery is effected. Occasionally it becomes necessary to deliver the child occipito-sacral with the forceps. This is not good practice. In these cases, tears are deep and hard to repair unless the child is very small.

Given a normal or slightly contracted pelvis, a high head, a cervix 9 cm. +, membranes intact, or recently ruptured, a child not too large, version and extraction may be employed. Until recent years this operation has not been used often. It has a definite place. It should never be attempted when there is marked disproportion between the pelvic inlet and the child's head. It may be used if the cervix is not dilated fully. In this case the extraction should not follow. The breech is brought down and the patient allowed to come out of the anesthetic. With return of the pains dilatation will go on and the patient will usually deliver spontaneously or at least with manual aid. Version is not a good operation in patients with a rigid

cervix and rigid vaginal soft parts. The baby is usually lost and the soft parts are badly lacerated. Cesarean section yields much better results.

Cesarean section should be used only in selected cases. The classic Cesarean should be limited to those cases which have had no vaginal examinations, where the child is large and the pelvis small. The low cervical, or Krönig Cesarean, has a wider field of usefulness. It may be used after the membranes have ruptured and even after one or two aseptic vaginals have been made. I have used it in 3 cases—one case in which an elderly primipara with a moderately contracted pelvis was given a test of labor lasting 35 hours, baby weighed 6 pounds 3 ounces; another primipara with the same type of pelvis after a test of 38 hours, baby weighed 7 pounds 3 ounces; the third primipara, a short fat (weight 180 pounds) woman with a generally contracted pelvis and a large baby. She was in labor 22 hours and the baby weighed 10 pounds 10 ounces. The first two cases were low Cesareans and the last a classical.

Occasionally it is possible to assist the rotation by Hodge's maneuver without the use of an anesthetic. Flexion is favored by pushing up on the sacripit. This is done with the hand in the vagina. Pressure is exerted during pains. On one or two occasions I have succeeded in rotating the head manually during pains. This works best in multiparas.

I hope you have noticed that our enemy pituitrin is conspicuous by his absence in the first and second stage of labor in these cases. I never use it in primipara. I have used it only twice in 79 cases—once in a para V because pains stopped in the second stage, and once in a para II with a small baby, 6 pounds 5 ounces. I have a fearful respect for this drug in occipito-posterior positions.

A mediolateral episiotomy is done in all primipara and in many multipara. In all para with persistent occiput-posteriors, a deep episiotomy is done. This cuts all the structure down to the levator ani muscle.

The management of the third stage of labor requires some skill. Many of these uteri are exhausted and half of the patients are under anesthesia, therefore there is a tendency for hemorrhage to occur. The use of pituitrin here is indicated. At the Chicago Lying-In Hospital we make it a rule to use  $\frac{1}{2}$  cc. pituitrin sub-

cutaneously immediately the head is born. This causes the uterus to contract well. There is no hurry about delivering the placenta. We wait until it is in the lower uterine segment and then express it. If hemorrhage occurs the uterus is cleared of clots and if necessary  $\frac{1}{2}$  cc. pituitrin is given directly into the uterine wall through the abdominal wall. We seldom pack any more.

After the third stage is over the cervix is inspected—tears are repaired with interrupted 40 day, No. 2 catgut. The episiotomy wound is repaired layer by layer, using catgut and silkworm gut or silkworm gut alone.

Occiput Posterior Positions occurring in (a) 5000 hospital cases and (b) 552 private cases.

	1.			
	Operative	Spontaneous	Total	Pct.
a	150	141	291	5.8
b	40	39	79	12.5

	2. Para.	a	b	a	b
1	103	30	46	15	
2	33	5	55	14	
3	4	1	20	6	
4	5	2	8	1	
5	0	2	6	2	
6	1	0	3	1	
7	1	..	2	..	
8	0	..	0	..	
9	1	..	0	..	
10	1	..	0	..	
11	1	..	1	..	

3. Baby's Weight.						
Average			Highest		Lowest	
a	7 lbs	2½ oz.	10 lbs	8 oz.	3 lbs	8½ oz.
b	7 lbs	7 oz.	10 lbs	10 oz.	4 lbs	7½ oz.
	a	b				
3-4 lbs.	1	0	7-8 lbs.	106	30	
4-5 lbs.	7	1	8-9 lbs.	56	16	
5-6 lbs.	17	5	9-10 lbs.	14	3	
6-7 lbs.	85	19	10-11 lbs.	5	2	
			Not recorded			

4. Condition of Babies.				
	O. K.	Deaths and Stillborn	Macerated	Poor
a .....	284	6	2	..
b .....	76	0	1	2

Of the poor cases 1 died in 3 days toxic, 1 premature 6%

mos. died.

Of the poor cases 1 died in 3 days toxic, 1 premature 6 $\frac{1}{2}$  mos. died.

Four of the six hospital deaths should have been prevented.

One was an anencephalous monster and one premature.

Facial Paralysis .....	10	0
Fracture clavicle .....	1	1
Foot and leg paralyzed .....	1	0
Maternal death .....	1*	0

\*Died pulmonary embolism 14th day.

	6. Labor.	1st Stage	2nd Stage	3rd Stage
Primipara—	hrs. mins.	hrs. mins.	hrs. mins.	hrs. mins.

	a	b	a	b	a	b
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Average	41	12	20	2:45"	1:32	13"	11
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Longest	83	0	65	8:43	5:20	50"	38
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Shortest	1	15	2	15	10	2	5
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Multipara—	14	56	13	38	1:17	1:35	10	9
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Longest	72	..	52	30	8:21	6	1hr.-7	28
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Shortest	1	..	2	15	-40	-5	1	4
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Type Operation—

	Complications	a	b
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Hospital Cases	1. Cited by Provost, Press Med., Feb. 1, 1922.	a	3
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Low Forceps	a 59	Version & Extraction	a 3
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	b 13	Cesarian	a 3
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Mid Forceps	a 65	Persistent Posterior	a 43
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	b 11	Craniotomy	a 1
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Hospital Cases	Complications.	Private Cases
43 Persistent Posterior	.....	14
1 Craniotomy	.....	1
1 partial abruption Placenta	.....	0
3 3rd degree Lacerations—all by outside physicians	.....	0
24 Post Partum hemorrhage	.....	4
1 Bands contraction ring	.....	0
1 Prolapsed cord	.....	0
0 Placenta Previa	.....	1
3 Duhrsen's Incisions used	.....	9
26 Manual Rotations succeeded	.....	12
*1 Maternal death	.....	0

## ANESTHESIA IN CHILDREN; SAFEST METHODS AND AGENTS.\*

FRANCIS E. HAINES, A. M., M. D.

CHICAGO

*Methods—General Consideration.*—In a consideration of the safest methods of administration of general anesthesia in children, intratracheal, spinal, rectal, and intravenous can be dismissed at once as being too dangerous, or at least, as not having been proved conclusively to be safe for them. All authorities seem quite agreed that the safest method of producing general anesthesia in children is by inhalation. When local anesthesia is used, the infiltration method is the only one generally recommended. Farr, of Minneapolis, reports success with local anesthesia in ninety per cent. of cases.

*Anesthetic Agents—General Consideration.*—As serious accidents are still occurring with every anesthetic agent and in expert hands, we may consider the *relative* safety only of anesthetics. Ether vapor is more irritating to mucous membrane than any other anesthetic. Chloroform and ethyl chloride are less irritating, and nitrous oxide-oxygen the least of all.

Concerning the changes in character and constituents of the blood under different anesthetics, the researches of Casto and others seem to indicate that whatever changes occur in coagulability, hemoglobin content, cell relations and morphology, hemolysis, or acidity are more or less transient and do not constitute elements of especial danger. But these investigators are of the opinion that all such effects are far less marked and less enduring under nitrous oxide-oxygen than under other anesthetics. After nitrous oxide-oxygen the phagocytic power of the blood and metabolism are disturbed only transiently if at all. With ether the opsonic index is not back

to its pre-operative level until two to five days after anesthesia. Therefore nitrous oxide-oxygen is preferable in septic cases.

Graham and others have demonstrated that chloroform sometimes causes fatty infiltration, necrosis, and a hemorrhagic tendency in the liver and other organs. All of us are familiar with the circulatory and respiratory depression that often occurs during chloroform anesthesia. Even in Europe where the use of chloroform has been quite prevalent, ether is rapidly coming into favor.

Some noteworthy clinical research work in ethyl chloride has been done recently by Guedel of Indianapolis. He likes ethyl chloride for instantaneous and not too painful operations at all ages, and for induction in the child up to two years. Ether is introduced and the two dovetailed together before any of the danger signals have appeared.

A recognized authority on gas-oxygen anesthesia, McKesson of Toledo, asserts that, "In regard to the use of gas-oxygen in children, age has no influence at all in the selection of anesthesia and besides there is not much variation in the technic in administering a baby an anesthetic from the technic for adults \* \* \* A child is quickly anesthetized as well as he is quickly deoxygenated. From this fact it is necessary to administer very carefully the proper mixture in order to have a smooth narcosis." Dr. McKesson has given many gas-oxygen anesthetics for abdominal work in children—for congenital pylorospasm, et cetera, in infants of a few days up. He spends as much as ten minutes, sometimes, in securing the proper mixture for infants.

Another gas-oxygen anesthetist of wide experience, McCurdy of Pittsburgh, observes that children are not bad risks for gas anesthesia and uses it in children from six months up.

Anesthesia in children in my own experience may be divided into two groups. The first group comprises 2,000 cases of anesthesia which the students of Rush Medical College have given in the Central Free Dispensary under my instruction and personal supervision. The second group numbers about 250 cases to which I have given the anesthetic myself. In the former group practically all of the operations have been for the removal of tonsils and adenoids, while in the

\*Read before Chicago Medical Society, March, 1922.



latter nearly all of the operations have been other than for tonsils and adenoids.

*Methods.*—The importance of the induction period can scarcely be overestimated. Young children seldom exercise any control of their fears and dislikes. If a child goes to sleep frightened and crying, a mild though definite degree of depression is present during and for some time after the period of anesthesia. If an anesthetic becomes imperative at any subsequent time, he will dread the ordeal even to the imperilling of his safety. Another danger is the consequent irregular breathing. When a child cries and struggles, inhalation is short and very deep, while exhalation is prolonged, thus wasting much time. A deep, quick inhalation may convey an excessive or paralyzing concentration of the anesthetic agent to the heart. If the anesthetic be ether there is more irritation of the mucous membranes and reflexly an abnormal increase in the flow of saliva and mucus which often prevents the proper intake of oxygen, obstructs the view of the operator in mouth operations, and lastly, but most seriously of all perhaps, may possible result in an aspiration pneumonia.

Entering into the confidence of and controlling the thoughts of the child is even more indispensable with local than with general anesthesia. Without the confidence and co-operation of the child, local anesthesia is a failure except in infants, while general anesthesia becomes a knocking out process. The method of obtaining the confidence of a child must be as varied as are individual dispositions. And it is a rare art to gain psychic control of a child almost instantaneously. But it can be done in practically every child of normal mentality, four years of age or older, who has not been frightened by a previous anesthetic, and who has parents reasonably sensible about the matter. Most younger children can be managed so that they do not suffer any severe fright.

It is a mistake to take a child to the operating room long before he is to be anesthetized. An infant should be unconscious before the preparation for operation is begun. Asepsis is much more satisfactory. The solutions used in cleansing the skin are painfully irritating to a baby's skin, and if he is awake so as to be sensible to their use he becomes terribly apprehensive and

suffers more than he possibly could from five minutes more of light anesthesia.

It is pleasanter for the patient if gas-oxygen is used for the induction of ether anesthesia. Great care must be taken that the patient is well accustomed to a strong ether vapor before changing to straight ether, or coughing will often result. Another important practice which I have tried out thoroughly is that of making the change from the mask of the gas machine to the one moistened moderately with ether during one exhalation so that the patient does not get one inhalation of air. If these two points are observed patients practically never cough from the change. When either alone is administered, the open drop-method is employed. A Schimmelbusch mask is covered with two layers of stockinette stretched until it is taut. The mask is *always* lowered slowly, for ether vapor is much less irritating to the respiratory tract if well diluted at first with air. With very young infants the mask may never be completely lowered. With older children a towel around the edges of the mask excludes air to the required degree.

The intrapharyngeal method of giving ether is sometimes used for induction and should always be used in cleft palate, tonsil or other mouth operations having a duration of more than about five minutes, in order to insure an even, smooth anesthesia which is not too deep at any time. The practice of putting the child under deeply enough to hold for a considerable length of time, in spite of the fact that the mouth is wide open, permitting an unusually free entry of air, is vicious and dangerous. The immediate dangers are needless depression of the heart and respiratory center, a prolonged total period of anesthesia, and greater possibility of aspiration of blood; and the more remote dangers are destruction of the epithelium of the respiratory tract and injury, temporary or permanent, to the parenchymatous cells of the kidneys. There is more decrease in the phagocytic power of the blood from such a saturation, more interference with cell metabolism, and more nausea and vomiting in the hours following anesthesia.

With nitrous oxide-oxygen in the very young, I start with a mixture containing 5 per cent. to 10 per cent. oxygen, change to 100 per cent. nitrous oxide for a few inhalations if necessary, and then find the level at which anesthesia is to be maintained. In older children, five to ten



years of age, 100 per cent. nitrous oxide is often given first and then oxygen introduced. The child will be less alarmed if the mask is lowered gradually, the gas being forced over to him at first and then the pressure reduced as soon as the mask is down. In administering gas under positive pressure, I feel safer to use some re-breathing.

#### ANESTHETIC AGENTS

*First Group.*—In the cases reported ether and nitrous oxide-oxygen were the only anesthetic agents used. In about 600 of the 2,000 tonsil cases a hypodermic of atropine was given one-half to one hour or longer before the administration of ether. As these children are carried so lightly that the eye-ball has a mild expression and is not fixed staring straight forward, the effect of atropine upon the size of the pupil and its reaction to light is of no consequence. There were no untoward effects from the use of atropine.

In the remaining 1,400 tonsil cases straight ether was given. The anesthesia was not as smooth, there being often a dangerous excess of saliva and mucus which had to be removed by the suction pump during the induction period. So that in a teaching clinic where students are learning to give their first anesthetics and where the patients are children improperly cared for, a child is safer if atropine is administered one-half hour to one hour previous to ether.

In these 2,000 children the only ones presenting serious difficulties have been four or five in whom the thyroid was enlarged and one very recent case, of a boy five years eight months old, who had a persistent thymus. This thymus case, anesthetized over three weeks ago is alive and well now, but he was resuscitated with the greatest of difficulty.

*Second Group.*—The children in the second group of about 250 cases were all ten years of age or younger. Quite a number were under six months, and about one-half of the total number were under six years of age. Most of these children were operated upon for conditions which kept them in the hospital a sufficient length of time for any ill effects of the anesthetic to become manifest. With tonsil cases in a large city there is little probability of the child returning to the original clinic or hospital if untoward effects occur. Then, too, the anes-

thetic in these 250 cases was for the most part of longer duration, sometimes of greater depth than is required for tonsil work, and often in children with more pathology than many tonsil cases have.

In these cases whose records show the urine to be normal before the anesthetic, a trace of albumin occurred in about five per cent. and casts and albumin in about three per cent. of those having ether. Unfortunately some prominent surgeons do not make it a routine to have the urine examined the day following the anesthetic. In none of the cases were there clinical symptoms indicative of the kidney irritation. The children with a tuberculous hip or spine constitute a large proportion of those showing albumin and casts in the urine after ether. Nausea and vomiting of any consequence occur in less than one per cent. regardless of whether gas or ether was used. Conjunctivitis has never occurred. I have not found record of a single pneumonia in these children and less than 0.5 per cent. have bronchitis.

A temperature reaching 100° to 101° at some time within the first twenty-four or forty-eight hours occurred in about 25 per cent. of the children, while a temperature reaching 101° to 102° occurred in about 15 per cent. Thus, about 40 per cent of children have a transient, moderate rise in temperature following anesthesia and operation. If this rise is marked or prolonged, the probable causes to be looked for are; acute pulmonary infections, constipation, and complications resulting from the operation including infections of the kidneys.

No ill after-effects have ever been noted in cases having nitrous oxide-oxygen alone or combined with a very small amount of ether. There has been only one accident with nitrous oxide-oxygen and that was in my first six months as an anesthetist. The patient, a boy about seven years old, ceased breathing but respiration was resumed spontaneously. The fault lay in my lack of experience. I have given nitrous oxide-oxygen to a number of children under six months and to a considerably larger number two years old and up. No difficulty has ever been encountered except in the one case cited.

#### SUMMARY AND CONCLUSION

1. Accidents and even death may result from the administration of any anesthetic agent even

in the most skilled hands. Many slight, untoward after-effects which do not cause much distress clinically, escape the knowledge of all except the careful observer who makes proper use of the laboratory.

2. Methods. The safest method of producing general anesthesia in children is by inhalation. Ether is given by the open drop-method or intrapharyngeally. Nitrous oxide-oxygen is given with a higher percentage of oxygen usually than in adults and under slight positive pressure, with a proper amount of rebreathing. Infiltration is the only method advisable for local anesthesia.

3. The importance of a slow induction period with the child's mind calm and his respiration regular cannot be overestimated.

a. Children are extremely susceptible to suggestion. Their confidence must be gained and their fears and thoughts controlled.

b. The deep inhalations resulting from fright lead to dangerous irritation of the respiratory tract with ether and cause an excessive concentration of any anesthetic agent to reach the heart suddenly.

c. If a child is frightened or smothered with his first anesthetic, his remembrance of the ordeal may imperil his safety if an anesthetic becomes imperative at any subsequent time.

4. Chloroform should not be administered to children for the dangers of immediate depression and of delayed poisoning are too great.

5. Ethyl chloride is applicable for very short operations and for induction, but dangerous except in skilled hands.

6. Ether is perhaps the safest anesthetic if the anesthetist is only moderately expert. The untoward effects of a first class ether anesthetic are almost negligible. I prefer a preceding hypo of atropine.

7. Nitrous oxide-oxygen is the safest as to immediate and remote effects when administered by an expert. Gas with a little oxygen is preferable for induction as a routine. Gas-oxygen is indicated in all septic cases.

8. In children age is not a contraindication to the use of ether, nitrous oxide-oxygen, or local.

9. Since there is a much narrower margin between surgical anesthesia and the danger zone in children than in adults, it is advisable that a competent anesthetist administer the anesthetic.

## MALIGNANT GLANDS AND THEIR PROPER TREATMENT WITH RADIUM.\*

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If, in eliminating the original cancer lesion, our task was finished, there would be no cancer problem. But in attacking a carcinoma or sarcoma we most earnestly desire a sixth sense, that would permit us to know, just how far the cancer invasion has gone. This insight, however, is denied us, and we have only our own and the experience of others to aid us in determining the probable path of cancer cells from the initial lesion.

We have learned that from a malignant growth on the side of the tongue, we may look with almost unvarying certainty for a malignant invasion, first in the submaxillary gland on the same side. The second gland to become infected is the sublingual or one of the cervical chain. If the initial lesion is on the side but toward the back of the tongue, the lymph glands in the base of the tongue and those lying near the larynx become involved early. These cases are as a rule desperate and the prognosis is bad.

If the cancer is in the base of the tongue, the tonsil on that side is usually involved, and the first outside palpable gland, is the cervical, just under the ear.

In epithelioma of the lower lip, the first sign of metastases is in the submaxillary and sublingual glands. It is not uncommon in these cases to find metastases as far as the bronchial lymph glands. I have the record of a case where a sarcomatous eye was enucleated, and radium was used in the orbital cavity. There was never a recurrence, but after three years of good health, the patient died from cancer of the liver. Was this a metastasis, in which the cells remained latent for this long period? Or was the cancer of the liver an entirely new development?

When the cancer is situated in the buccal cavity, the first involved gland is usually the submaxillary, though in some instances the parotid gland shows signs of involvement at the same time. In untreated and maltreated cases the metastases spreads to the cervical chain,

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down as far as the supra-clavicular region. Pain is not pronounced in these cases until the gland just back of the mastoid attachment of the sterno-clido-mastoid becomes invaded. Then the patient complains of pain in the ear and the occipital region. In these advanced cases, metastases have occurred in the mediastinum.

In cancer of the tonsil, the cervical glands early become palpable.

Cancer of the buccal cavity and the tonsil, may have healed promptly and show no sign of recurrence, while the metastases march steadily on.

In carcinoma of the cervix uteri, the glands that occupy our attention are the pelvic glands. Fortunately these are in a bony pocket, and are of easy access to the rays of radium. The first series of thorough radium radiation will act lethally on the cancer cells that have been carried to these glands. It is advisable in these cases to give another series of treatments in from four to six weeks, that we may be as sure as is humanly possible that all cancer cells are destroyed.

As a rule, if there is no breaking down of superficial tissue in the initial lesion, there is no glandular involvement seen or palpated. Whether at a much earlier date cancer cells have outwandered from the initial lesion into the lymph channel and located in glands, we do not know, but it is very probable that such is the case.

In the great majority of cases, metastases occur on the side of the initial lesion, but occasionally a metastasis is found on the opposite side. The cancer cells have apparently passed through the lymph system and have come to a halt at some distance, before finding a host to their liking. This is problematical, and is a theory, but as there are many theories regarding the cancer problem extant, I may be permitted one.

It has been my conceit to liken the lymphatic system as a carrier of cancer cells to a railroad system. A freight train starts from the main shipping point. It may pass through several towns without stopping, or it may stop at the first town and switch off one or more cars. The cars may lie on the siding for some time before the consignee makes use of the goods in the cars. The train may go to the end of the division before any more cars are switched off, or it may stop at every station. At some of the stations the cars are opened at once and the contents

made use of, while at others some time elapses before the car is opened. Now for the application of the simile. Some cells may be deposited in the glands near the lesion and remain latent for a time, while in other cases, activity is at once seen. This activity or absence of the same, I conceive to be due to the character of the host. Sometimes the outwandering cancer cells will be deposited in consecutive glands of a chain and commence mitosis at once. This is without doubt due to the absence of a certain resisting power, that is evident in some glands and not in others. When we know what constitutes this resistance in the human economy, when we have learned to develop and maintain it by outside agents, then we are on the right track for the cure of cancer. Various serums and agents to incite another form of inflammation have been tried but have failed. Much has been claimed for Cooley's fluid, but the only one who seems to have good results is the originator.

Is it possible that the proper administration of some of the ductless glands may produce a distinct resisting effect in the tissue. I have thought that by the administration of thyroid extract in cancer cases being treated with radium, the resisting power of the tissues and the general health of the patient was improved. I have no scientific proof, but only clinical evidence that this is so, and it is suggested for your consideration and comment. I know that this idea of fortifying the tissues against cancer invasion is not new, and many are the treatments and methods that have been given. Dr. Buckley of New York believes in an almost starvation plan, rice being the principal article of sustenance. Others believe in feeding to the limit. Of the two, give me the latter. We now come to the treatment of secondary malignant glands, or in other words, metastases.

I have seen the submaxillary, sublingual and entire cervical chain of glands removed, without producing the desired effect, that is, the end of cancer cell invasion. I have seen the entire breast removed, with both pectorals, together with the axillary glands, with recurrence within three months. And because of these untoward results, I think the majority approach the axillary cavity with fear and trembling.

I do not wish to be misunderstood, and cause you to think that my stand is definitely against the knife. The latter has its distinct place as I



will explain later. We know that when the knife is used in removing cancer glands, the mouths of the lymphatics are opened, and every chance given to the outwandering cells. Even the cautery knife is not enough of a safeguard. The heat produced is only superficial, and too temporary to produce a permanent obliteration of the lymph channels, and is not sufficient to kill any "left over" cells at the time of the operation. Therefore if we decided to remove the malignant gland with the knife, is it not wise to look about us for some agent that will indisputably close the mouths of the lymph trunks, before the knife enters the tissues. We are quite sure that in radium we have this agent. Within ten days after the radium has been introduced in or near the lymph trunks, the lumen has been closed by the same physiological process as the closing of the small arteries and arterioles by an obliterative endarteritis. At this time it is permissible to remove the gland or glands by the knife.

Boggs (paper read before Roentgen Ray Society of Central Pennsylvania, Altoona, Pa., October 29, 1921), inserts his needles in the breast in mammary cancer in such a manner that the several lymph trunks will become obliterated, after which the surgeon enters the field. He is of the belief that after the lymph channels are closed, the possibility of metastases is removed, and again the action of the radium on the cancer cells in the tumor mass has been lethal. I can recommend this procedure without reservation. If radium does have the action above described, and we know that it does, might it not be considered fatuous to attempt mechanical removal after the real work has been done? In making this statement I know full well that I will be considered a heretic, but as I have made the plunge, I might as well swim clear across, and say that it is my belief that in the next five years there will not be one-half the number of breast cancers removed by the knife, and less than that percentage of malignant glands of the neck removed by the same instrument. If, however, the breast is to be removed by the surgeon, do not open the axilla. I am sure you can remember the great number of recurrences, in the cases where you have done this. If there is evidence of metastases in the axillary glands, no better therapy can be suggested than the sinking of radium needles into the substance of the glands.

In the treatment of carcinoma of the side or base of the tongue, the initial lesion should of course have first attention, and, incidentally, in applying radium to this organ, the best results follow the sinking of needles in the diseased area. After this, if the submaxillary gland is at all involved, and if the involvement be detected by palpation, radium needles should be sunk in the substance of the gland. The same treatment should be given the sublingual. But even if there is no evidence of gland involvement, it is imperative that the submaxillary, sublingual and cervical chain receive radiation by the application of radium packs, sufficiently elevated above the skin to minimize a severe skin reaction.

Since I have been following this plan, I have been gratified with the lessened number of gland metastases, and in the cases where the gland is already involved the introduction of needles has caused cessation of activity in the individual glands.

Of course when the base of the tongue is involved the deep glands surrounding the upper respiratory tract have been invaded and because of the situation of these glands it is difficult if not impossible, in the majority of cases, to bring radium in contact with these diseased glands. I utilize heavy packs in attacking these deep glands, elevated above the skin. The prognosis is never good in these cases.

In vaginal carcinoma, the inguinal glands are the first involved. Some good can be accomplished by inserting radium needles in the palpable glands, which are those at the surface, but we cannot reach the deep glands in this way, and are compelled to depend on x-ray with the hope that the penetration will be deep enough to act lethally on the glands in the deeper structures.

It is hardly necessary to say that early recognition of not only the initial lesion, as well as the glandular involvement, makes for a satisfactory ending of the case.

I realize that some of my statements have seemed definite and final. I do not wish to convey the impression that carcinoma invading the glands is a simple matter. On the contrary, it is very grave. But I do wish to impress on you that the proper use of radium at the earliest possible moment will materially lessen our mortality rate.



THE INFLUENCE OF COMPLEMENT  
UPON THE SCHICK REACTION  
AND UPON THE UNTOWARD  
SYMPTOMS OCCURRING  
DURING T-A IMMUN-  
IZATION

FERDINAND HERB, M.D.

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In 1913 Schick<sup>1</sup> taught us that we can determine by a simple test whether or not a child is susceptible to diphtheria. This simple test consists of the intradermal injection of diphtheria toxins. If the child is susceptible, inflammatory conditions develop at the site of the injection and the test is called "positive." If the child is not susceptible, no inflammatory conditions develop at the site of the injection and the test is called "negative."

During the ever increasing practical application of this test as well as during the attempts to immunize those found susceptible with toxin-antitoxin (T-A) mixtures, many strange phenomena have been observed that have so far eluded all attempts at explanation. In consequence, progress has been greatly delayed. Indeed, it seems as if a definite standstill has been reached.

It is the object of this paper to show the way out of this difficulty and to stimulate further research and practical advancement by giving a clear conception of the biologic phenomena upon which the variations of the Schick reaction and of the untoward symptoms occurring during T-A immunization are based.

One of the most perplexing clinical and experimental findings encountered during the pursuit to find ways and means to eradicate diphtheria is the great variation in the so-called "sensitiveness" to diphtheria toxins. This variation is especially conspicuous when working with different animal species. Thus, Behring found that T-A mixtures, perfectly harmless to guinea pigs, cause severe reactions, local and constitutional, in the ass. Still more sensitive proved monkeys. They died of diphtheria poisoning after several inoculations of mixtures that were even many times overneutralized.

As the development of active immunity by the inoculation of T-A mixtures came into vogue, it soon became apparent that the same tendency to variations, though less pronounced, exists also

among different individuals of the same species, in this instance, among children. While most of them suffer no inconvenience whatsoever from the injection of a properly prepared T-A mixture, some react more or less severely upon the application of the same material.

The utter inability to get at the facts upon which this clinical variation of the sensitiveness to diphtheria toxins rests has proved a great stumbling block. Of course, attempts at explanation have been made, but with little success. The Vienna school, for instance, has attributed these reactions to a "hypersensitiveness" of the tissues of those who reacted. But as hypersensitiveness means nothing definite and is but a vague expression of something intangible, nothing is gained by this explanation. It simply substitutes one sphinx for another sphinx.

Just as indefinite is the explanation of others, for instance of Bessau and Opitz. They think that these variations are due to endotoxins. However, as there is at present a total lack of information in regard to the origin and nature of these supposed "endotoxins," this conception explains no more than the other. It, too, substitutes one sphinx for another sphinx.

Under such circumstances and with practically no lead, there is but small hope to evolve a plausible explanation unless we start our investigation at the very bottom and consider, first, in detail the three factors that are involved in all immunity reactions, the Schick reaction and the T-A immunization included. These three factors are: 1, the antigen, in this instance called "toxins," 2, the antibodies, in this instance called "antitoxins," 3, the complement.

The first of these three factors, namely, the diphtheria toxins, have been considered at length in one of my previous papers.<sup>2</sup> To avoid unnecessary repetition, I will give here, therefore, only a summary of my former deductions and refer for details to this paper.

As diphtheria toxins immunize children and immunization cannot be produced unless the body cells come into contact with specific diphtheritic antigen, such specific diphtheritic antigen must be contained in the diphtheria toxins. Specific diphtheritic antigen can be made up only of two substances: the body substance of diphtheria bacilli or their still specific split products. As the toxins pass through porcelain fil-

ters that will not permit the passage of the large, unbroken diphtheria molecule, the specific antigen of the diphtheria toxins must consist of split products originating from the bodies of diphtheria bacilli that have died and disintegrated in the culture.

In sharp contrast to this deduction is the opinion of Dr. Simon Flexner, of New York. He states that diphtheria toxins "are secreted by living bacilli." This opinion of Flexner is here adduced, first, because of the prominence of its author and, second, because of the fact that it is supported by the Council on Pharmacy and Chemistry of the American Medical Association. Nevertheless, it is untenable. It presupposes that living, healthy bacilli secrete their own specific body substance. Such a thing is unknown in Nature; it is impossible and unthinkable, as it is incompatible with life.

Poisons of the nature of diphtheritic toxins are disposed of in the animal economy by being broken down into simpler, non-poisonous fragments. Victor C. Vaughan<sup>3</sup> has shown this conclusively. Outside the body, this breaking down of poisons may be accomplished by ferments, or by chemicals, or by heat. For instance, diphtheria toxins, if heated to 75 C. for 10 minutes, lose entirely their poisonous character. Within the body, this breaking down of poisons is accomplished only by ferments, which, in the blood, are known as antibodies.

These specific ferments, or antibodies, are the second factor to be considered. In the case of diphtheria, they are identical with the so-called "antitoxins." The experimental and clinical proofs to uphold this statement have been furnished in my aforementioned paper.<sup>2</sup> Antitoxins, as Dr. Simon Flexner states, that "neutralize liberated poisons, but do not act upon the bacilli themselves" do not exist. I fully realize that I, at present, stand alone in this interpretation of antitoxins, with the entire formidable array of the world's medical authorities against me; and I feel my isolation. But I also feel that I stand firmly and safely upon the solid rock of incontrovertible experimental and clinical evidence. The antitoxin theory with all its ramifications is a gigantic fallacy. It is the most disastrous trap in which an unaware medical world has ever been caught. Even Behring admitted numerous exceptions and Ehrlich, with all his

ingenuity, failed dismally in trying to explain this unexplainable doctrine. Antitoxins differ in no way from other specific ferments, or antibodies. As soon as this fact is realized and conceded by the profession at large, a long array of heretofore unexplainable clinical and experimental phenomena will at once become simple of explanation. The world will greatly benefit by this change of attitude and progress will be possible in many lines of medical endeavor, where bewilderment and stagnation reign today.

The activity of ferments, or antibodies, is dependent upon the presence of another substance, called "complement." It is the third factor that concerns us here. Without it, biologic processes, such as the Schick reaction and T-A immunization, are impossible, as ferments alone are totally inert and incapable of action. This now universally conceded fact has heretofore found appreciation only in the laboratory. From a clinical standpoint, it is altogether unknown to the vast majority of physicians. Nevertheless, it is very frequently the factor that decides the issue of health or sickness, of life or death.

To fully command this difficult situation, we need a clear conception of the relative position of the ferment towards its complement. In a more detailed description elsewhere,<sup>4</sup> I have likened the ferment to the laborer and the complement to his mechanical tools, designating it is the chemical tool of the ferment. For the sake of clearness, let us here go one step further and compare the complement with a charge of dynamite. As the laborer, bent upon clearing wild land, can blow up one stump after the other, so the ferment can disrupt one molecule of food, or antigen, after the other. But as a charge of dynamite is used up and no longer exists as such after the explosion and must be replaced anew for each following stump, so a definite quantity of complement is used up during the disruption of a molecule and must be replenished continually to keep the ferment active, whether it is killing microbes or disintegrating their poisonous split products into simpler, non-poisonous fragments.

Dropping, thus, the calamitous antitoxin theory, the explanation of the variations of the Schick reaction and of the untoward symptoms occurring during T-A immunization is now readily accomplished on the basis of the above

given facts and becomes a simple problem of arithmetics.

Beginning with the T-A immunization we have the following three equations:

**poisons vs. antibodies + plenty of complement**  
= no symptoms.

**poisons vs. antibodies + scarcity of complement**  
= symptoms (local or constitutional).

**poisons vs. antibodies + insufficiency of complement**  
= death.

In these three equations, the poisons (specific diphtheritic toxins) and the antibodies (specific ferments=antitoxins) are known factors, as they can be regulated at will. The only variant is the complement, as it is furnished by the body and, as yet, beyond our control.

The conditions represented in the first equation are given in the case of the guinea pig, when inoculated with diphtheritic toxins neutralized with a sufficient quantity of antitoxin. There are no symptoms because the specific ferments of the antitoxin, with the aid of the now available abundant supply of complement which the pig is known to possess, break down the toxins into non-poisonous fragments before the body cells have time to react. In the ass, the conditions represented in the second equation are given. The ass has much less natural complement. Its local supply at the site of the injection is not sufficient for the destruction of all inoculated poisons. Consequently, the toxins that are left unaltered after the consumption of the local supply of complement cause a local inflammation and, by partly reaching the blood stream, also induce constitutional symptoms. The animal ultimately survives because the specific ferments of the antitoxin gradually break down the rest of the poisons with the aid of the complement later on furnished by the blood stream and the tissues. The conditions represented in the third equation, finally, are given in the case of the monkeys. They die after several injections of overneutralized doses of toxins because the moment their relatively small amount of natural complement is consumed the specific ferments of the antitoxin become inert. The remaining toxins, left unaltered, exert their poisonous influence and the animal succumbs in spite of any number of antitoxins that may have been injected. The death of these monkeys is on par with the destruction of horses, as reported by Behring and other observers, that perish at the

height of immunization after the injection of more than ten lethal, though many times over-neutralized, doses of toxins. The disintegration of about ten lethal doses of toxins exhausts the available supply of complement. If more toxin is injected, it remains unaltered and will kill in spite of the presence of the enormous numbers of free, potentially active antitoxins that have been found to exist. The same lack of complement also explains the well known clinical experience that no additional injection of antitoxin will save the life of the child if the first, sufficiently large, inoculation did not do so.

Thus, the riddle of the sphinx is solved and the elusive "hypersensitiveness," stripped of its mysteries, emerges as a simple lack of complement.

In the instance of the Schick reaction, the conditions are not quite so simple, as two variants are here in the equation: the antibodies and the complement. Each of the two may be at fault, as we see later.

The negative Schick reaction is represented in the first equation. There are no symptoms because sufficient natural antibodies (antitoxins) plus complement are already in the body to break down the injected specific antigen (diphtheritic toxins) into non-poisonous fragments before the tissues can react.

Among the positive Schick reactions there are three variations: the true positive reaction, the pseudoreaction and the positive combined reaction. Each has its own characteristic clinical symptoms, and each rests upon a different pathological basis.

In giving now the characteristic clinical symptoms of the three different reactions I follow closely the description of Dr. Abraham Zingher,<sup>5</sup> of the New York Health Department, omitting only what is non-essential.

For the interpretation of the test, it is important to remember that the positive reaction represents the action of an irritant toxin on unprotected cells. A trace of redness appears slowly at the site of the injection in from 12 to 24 hours, and usually a distinct reaction in the course of 24 to 48 hours. The reaction reaches its height on the third or fourth day and gradually disappears, leaving a definite circumscribed scaling area of brownish pigmentation, which persists from three to six weeks. At the height, the positive reaction consists of a circumscribed area of redness and slight infiltration which measures from 1 to 2.5 cm. in diameter. In the negative reaction



the skin remains normal. In the pseudoreaction, the reaction is of an urticarial nature, appears early, within 6 to 18 hours, reaches its height in 36 to 48 hours, and disappears on the third or fourth day, leaving no pigmentation, or only a poorly defined, small brownish spot. At its height the pseudoreaction shows varying degrees of infiltration, and appears as a small central area of dusky redness, with a secondary areola, which gradually shades off into the surrounding skin. A control test may be made by injecting into the other forearm in the same dilution diphtheria toxin which has been either heated to 75 C. for 5 minutes to destroy the soluble toxin, or has been overneutralized by the addition of antitoxin. We must conclude that it is the protein of the autolyzed diphtheria bacilli which is the active agent. Similar and even more intensive pseudoreactions may be obtained with a dilution of an autolysate of diphtheria bacilli, which contains no trace of soluble toxin.

Occasionally one sees a combined reaction which represents both a positive and a pseudoreaction. The central area of redness is larger and better defined; the amount of infiltration is also more marked.

At first, it may seem impossible to evolve a definite pathological basis for the varying symptoms of each of the three different reactions. But a glance at the second equation will furnish it at once. Symptoms, local or constitutional, may be caused 1, by a lack of antibodies=true positive reaction, 2, by a lack of complement=pseudoreaction, 3, by a lack of both simultaneously=positive combined reaction.

That the true positive reaction is caused by a lack of antibodies (antitoxin) is common knowledge. Proof is furnished by the fact that with the development of antibodies (antitoxin) in consequence of T-A immunization, the test becomes negative.

Proof, however, is required to show that the pseudoreaction is due to lack of complement. To adduce this proof, I wish to point to the following facts: Pseudoreactions appear principally in older children and in adults, who present only comparatively few true reactions and, thus, show that they are protected by natural antitoxin. Second, many of those who present pseudoreactions have been found to possess large quantities of antitoxin in their serum. Third, pseudoreactions can be produced with solutions of toxin that are overneutralized with antitoxin. Lack of antibodies is, therefore, not the cause of pseudoreactions. This leaves only a lack of complement as the underlying basis.

Do the clinical phenomena tally with this explanation? We will find that they do. In the

true positive reaction, the development of symptoms is comparatively slow. They do not reach their height until the third or fourth day because it takes time to develop specific ferments (antitoxin). In the pseudoreaction, the symptoms come more quickly. They reach their height within 36 to 48 hours because the ferments are there and ready to act. They split the specific antigen, that is, Zingher's protein of autolyzed diphtheria bacilli, into fragments quick enough, but cannot complete the reaction at once, as the local complement is lacking. Consequently, poisonous split products develop and persist long enough to produce local irritation and inflammation. The pseudoreaction is ordinarily stronger (urticarial) than the true positive reaction because the large number of ferments usually present produce in the same time more poisons than the slowly developing few ferments that cause the true positive reaction. And, finally, the pseudoreaction runs a quicker course because the necessary complement comes forth from the blood stream and the tissues much quicker than antibodies (antitoxins) can be developed to complete the reaction.

Additional proof is furnished by the following clinical observations made by Zingher: "As a rule those children who had given a simple positive Schick reaction showed very little local disturbance. On the other hand, children who had had a positive combined reaction presented considerable local redness, swelling and tenderness at the arm at the site of the injection and varying degrees of constitutional disturbances."

Such increased "sensitiveness" in the case of positive combined reactions is not at all surprising and is but the natural consequence of the co-existing scarcity of complement. The conditions are similar to those in the ass, as described above.

Then Zingher continues: "It is interesting to note that there is a much higher proportion of pseudoreactors among the immunes, than there is of positive combined reactors among the non-immunes. We can, therefore, assume that the repeated exposures to infection with diphtheria bacillus brings about not only an antitoxic immunity, but also a hypersensitiveness of certain predisposed individuals to diphtheria bacillus protein. The development of this hypersensitiveness renders the cells of the epider-



mis of the pseudoreactors anaphylactic to the autolyzed protein of the diphtheria bacillus, which is present in the test solution."

This paragraph is a fair example of the utter embarrassment into which the antitoxin theory has engulfed us by befogging the mind of man and successfully concealing the truth behind a screen of a dense cloud of black smoke. Conditions, however, become at once clear and readily understood as soon as we translate Zingher's explanation into the anti-antitoxin language, which would read as follows: We can, therefore, assume that the repeated exposures to infection with diphtheria bacillus brings about not only the development of specific diphtheritic antibodies, but also leads to a partial exhaustion of complement in certain predisposed individuals. This exhaustion of complement manifests itself locally for reasons stated above by the appearance of the pseudoreaction at the site of the inoculation of the autolyzed protein of the diphtheria bacillus, which is present in the test solution.

The blending of the symptoms of the true positive reaction with those of the pseudoreaction in the positive combined reaction shows that the developing bodies do not find the necessary complement to act and are delayed in the performance of their work. Consequently, the symptoms of both reactions appear simultaneously.

At this juncture, an unexpected and rather startling development presents itself. The analysis as to the ultimate causes of the clinical variations of the different Schick reactions forcibly impresses upon us the probability that ready poisons are not contained in the so-called "diphtheritic toxins." They are present only as "toxogens." As toxogens I define the "Vorstufe" of the toxins, that is, the disrupted body substance of diphtheria bacilli that have not as yet been broken down far enough to produce toxic fragments. This conclusion is suggested by the peculiar fact that the toxic symptoms of the true positive reaction come more slowly and later than those of the pseudoreaction. If free toxins were present in the solution, the reverse should be true. As it is, toxic fragments or poisons are first developed by the action of the

ferments (antitoxins). This fact is conspicuous in the pseudoreaction, as the control fluid contains only the unbroken molecules of the autolyzed bacterial bodies and, as Zingher emphatically affirms, "no trace of soluble toxins." Nevertheless, its symptoms appear quicker, proving definitely that the poisons, when once developed, act at once, and that the slowly and successively developing inflammation of the true positive reaction can only be due to a slow and successive development of the poisons by the gradually developing antibodies.

This new disclosure gives another body blow to the antitoxin theory. How can antitoxins neutralize toxins that do not exist? It also refutes anew the statement of Dr. Simon Flexner that the diphtheritic poisons are secreted by living bacilli. How can they be secreted by living bacilli if they need the action of specific ferments and of complement to come into existence?

These two questions are added to the many others that must be answered by those who care to defend the antitoxin theory.

*Comment.* The appreciation of the role thus played by complement in the production of the Schick reactions and of the untoward symptoms occurring during T-A immunization, is not only of scientific but also of immensely practical importance. It opens up a new field for therapeutic activity in the treatment and prophylaxis of diphtheria second to none. While it is true that in the case of sickness we have to deal with three variants in the equation, conditions are not so difficult to analyze as they seem to be. With the elaboration of the antidiphtheritic serum Behring took the hazard out of the second factor by enabling us to supply to the ailing child the needed specific ferments in any number required. The determination of the exact chemical composition of the complement will take the hazard out of the third factor. Ferments plus complement, again, completely control the first factor, the diphtheritic poisons. With the complement found, they no longer constitute the menace they are today. Eradication of diphtheria comes, then, within the easy grasp of man and no child should die thereafter of this scourge unless death already casts its shadow upon the victim before proper treatment is instituted. The pessimistic view of Cummings<sup>6</sup> that "the mortality rate would seem to have reached its irreducible min-

imum" is no longer justified, as the road to travel is now clearly marked.

To find the exact composition of the complement is the urgent task before us. It is not difficult to accomplish and within reach of those who have the necessary equipment at their disposal.

The search for the complement required to combat diphtheria once begun, we have started on the road that leads us to the only rational treatment of infectious diseases. I am fully convinced that a successful battle against not only the acute infections, such as diphtheria, but also against those of essentially chronic character, such as syphilis in all its stages, will, then, become not only a possibility, but a probability, if not a certainty.

#### CONCLUSIONS

1. The so-called "diphtheritic toxins" derive their specific antigen from the body substance of diphtheria bacilli that have died and disintegrated in the culture.
2. Antitoxins are ordinary specific ferments and require complement for their action.
3. Hypersensitiveness to diphtheria toxins is due to lack of complement.
4. The true positive Schick reaction is due to lack of specific ferments.
5. The pseudoreaction is due to lack of complement.
6. The positive combined reaction is due to lack of ferments plus lack of complement.
7. Free poisons are not contained in diphtheria toxins, but only toxogens.
8. Supplying specific ferments plus their complement constitutes the most ideal and most successful specific treatment of infectious diseases.

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30 North Michigan Boulevard.

#### FAD OF REPLACING THE UTERUS

The multitude of pessaries, intra-uterine and vaginal, which marked the displacement era of sixty years ago, have almost all disappeared into museums as antiquities or curiosities, and now the ring is almost the only survivor. In the surgical area through which we are now passing, the modern counterpart of the pessary inventor is the deviser of suspensory and sling operations on the uterus. The woman with a uterus that will not sit up straight can have a tuck taken in its round ligaments, or have it held up by the ligaments being stitched to the abdominal wall, or delicately supported by the ligaments being clasped behind its back, and so on ad infinitum. The attitude of mind of these suspenders of the uterus is precisely that of the mid-Victorian pessary-monger; their methods only have changed with the times, and these operations are quite as much overdone as the pessaries were, but do less harm. There is not the bad mental effect of continuous pessary wearing with the recurrent need for changing, and there is the advantage that the patient has two or three weeks in bed with a change and convalescence, together with the strong suggestion that now the errant womb has been made right, she also ought to be right.—J. S. Fairbairn, Brit. M. J., 1:587 (April) 1922.

#### WHY

[\*THE WAIL OF AN EXASPERATED BUT LOYAL M. D.]  
Oh, when from his nostrums and medical fakes  
The "patent" man's fortune immense is,  
Oh, what in the world is the reason it takes  
Every cent I collect for expenses?

Oh, when the gudewife of the opulent quack  
Her satins and silks is parading,  
Oh, why has my wife but two gowns for her back,  
And the best of them dingy and fading?

Oh, when the brigades of fibromatous folk  
Are swelling the cancer quack's coffers,  
Oh, why am I thankful in caustic to soak  
Some verruca that accident offers?

Oh, when, before deigning his patients to ease  
His fee in advance the quack collars,  
Oh, why do I have, when a patient I seize,  
Such a long, weary chase for my dollars?

Oh, when yon galenical humbugs galore  
Stroll gaily through rose-fragrant places,  
Oh, why do I wander, all worn and foot-sore,  
In a desert that has no oasis?

\* \*

Because in the days of my youth I was taught  
A principle timely and healthy,  
And for quackdom's success I've no envious thought,  
For I'd rather be honest than wealthy.

Tommy Dod.—The Medical Age.

# ILLINOIS MEDICAL JOURNAL

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## SEPTEMBER, 1922

## Editorial

### A POLITICAL POWER IF ORGANIZED

There are in round numbers 142,000 physicians, 43,000 dentists and 45,000 drug stores in the United States. In the latter instance there are probably three druggists to every drug store making a total of 100,000 druggists. These professions if properly organized and working cohesively can be made the greatest factor for good in the country. No legislation inimical to the best interests of the public and the professions named could be placed on the statute books with this organization working coherently. Not a home in the State or Nation that is not reached by some Doctor during the course of the year; perhaps not an individual in the Nation who is not met face to face and engaged in personal conversation by one of the three professions in the course of the year.

What a power if organized would be the doctors, dentists and druggists of the United States in combating medicinizing socialization schemes, schemes for health centres, clinics, compensation laws, health insurance, Sheppard-Towner Maternity Acts and in heading off Federal interference in medical practice by such menaces

as the regrettable maternity bill and the other fifty seven varieties of attempts to bring about State Medicine.

### PAID REFORMER BECOMES LAW BREAKER UNDER NEW YORK BILL

In the recent New York Assembly, Assemblyman F. L. Kackenburg of New York introduced into the legislature a bill the object of which was to rid the State of the paid professional reformers. The measure provided for a new section to the penal law to define "hypocrisy." Under the definition it would be a misdemeanor for persons to support any legislation calculated to infringe upon and restrain the free exercise of personal liberty, for pay or gifts or in anticipation of any reward.

There are a lot of people in this world who spend all their time and overtax their mentality trying to get laws passed to prevent other people doing something. If these people gave half as much attention to their own affairs as they do to other people's they would be much happier and more generally respected. Any one who gives proper attention to his own business has no time to give to the other fellow's business.

We are in sympathy with the purport of the



present law. Much of the upset condition of the country is due to the activities of the human parasite who lives off the energies of his fellows and who goes about the world seeing whom he can regulate in one way or another. All this of course is at the expense of the tax payers and usually the agitation is carried on for the express purpose of landing the so-called reformer in a fat job.

### THEN WE WILL KNOW WHETHER LIFE IS WORTH LIVING

Welcome State Senator Dennis Fleming, of Georgia, to the company of super-regulators. He has introduced a bill which provides that "any and all married men who shall go fishing without the consent of their wives shall be guilty of a felony, and their sentence shall not be less than five or more than twenty years at hard labor." Since the ideal of an increasing number of Americans is a state in which all things are dealt with by law, from red neckties to double negatives, we might as well hurry the movement along and acquire a government under which all citizens are standardized according to size, color of eyes and general deportment—the non-conformists being chloroformed. Then we'll know at once whether life is worth living.

### POOR MEDICINE. IT IS SURELY GETTING IT

Glenn Frank broke out again in the August *Century* and refers to practicing physicians as "Physical Wrecking Crews." We note also the other anonymous article in which it is argued that the physician should be subsidiary to the sanitary engineer. Read *Life* in which it takes Dr. Biggs (member of the Rockefeller committee) to task for wanting us to be ruled, measured and examined and classified by the State. Poor Medicine; it is surely getting it.

Our attention is also called to the Rockefeller report taking over the nursing problem by the University of Michigan. Talk about caste! Under it we would have supernurses—then middle class and then proletariat. The super nurses are to rival the physicians in rank—to be teachers and supervisors; but from the report we take it that their chief glory is to lie in handling "health campaigns." This point is much emphasized.

### ADVERTISING LOW PRICED LABORATORIES IN THE JOURNAL

*To the Editor:* In reply to your request as to objections against carrying the advertisements of low fees laboratory in the *JOURNAL* I would say that "for the good of the service" appears to me a very satisfactory reason.

From what I have seen of their "literature," it appears that they are not seeking business because of the excellence of their work, or attempting to attract patronage through legitimate business inducements, but through "price cutting"—a practice that the modern business world looks on with contempt, no matter in what line it is practiced, and as being conducive only to degeneration and the production of inferior quality instead of permitting that progress and increased benefits to the "consumer" which a fair remuneration would allow.

When we are attempting to raise the status of the medical profession, including that of such as attempt to work in pathology, I believe it to be a poor policy to admit anyone to advertising privileges whose plan of action is not one leading toward betterment of the physicians' standing, or that is not helpful in making more certain the restoration of the sick to health.

The argument that a patient afflicted with syphilis cannot afford to pay a fair and legitimate fee, permitting of proper working conditions and sufficient attention given to each test, and also a proper remuneration (not merely a "living wage") to individuals who have been required to make the sacrifices which every really competent worker in this line must make to attain that standard of proficiency which we deem essential, is, in plain American, all "*bull*."

Having been in general practice for about ten years in a middle to low class neighborhood, I know the financial ability of the average patient and know the charges exacted from him for other medical services. I have also been in laboratory practice sufficiently long—nearly a quarter of a century—to know that while half of the Doctors chronically cry that "my patients cannot afford to pay such high (!) prices," a large proportion are quite ready and even ask you to tack on an additional fee and rob the patient for their benefit. When it is a question of the attending physician getting more money than his personal services entitle him to, it is wonderful how easily pa-



tients are able to "afford" the extra charge. I am also sure that in many cases where physicians send Wassermanns to the laboratories or others operating at even less cost, the patient pays the full regular fee. Furthermore, it is less frequently the patient who questions or complains about laboratory charges than the Doctor. It is the Doctor who teaches the patient to complain about perfectly legitimate charges—and then they wonder at the unwillingness of patients to pay them.

There is no necessity for a lower fee than has become standard for this test. Those unable to pay for the test, and many that can, have the work done gratis at our many colleges and other clinics. For those that do pay all the way through, the total expense of all the Wassermanns required in the treatment of any case of syphilis, is a mere bagatelle in comparison with the fees the Doctor who is treating the case gets.

Having made Wassermanns since Wassermanns first began, I know pretty much about the various methods that may be used. I also know that as the situation is, there are many, many Wassermann reports turned out every day that are not worth the paper they are written on and, surely, lowering prices will not make conditions better. There will be no inducement for those who are really competent to take up the work, but it will be left to a lot of cheap "technicians." Several years ago, as you probably know, we started reporting the results of the test as made with two antigens, a procedure which has since been adopted by a fair number of other high class institutions; but our reports are actually based on the findings of at least NINE different tests. Now, we do not make this large number of tests to kill time, or to make a long job out of what should really be a short one, but because our experience has taught us the difficulties and possible fallacies of the test and that errors cannot be properly guarded against unless we do make all these tests. Of course, those who sell Wassermanns for less than the standard price, cannot afford to do this and, therefore, take risks which we would not—but then, it was ever true, that "fools rush in where angels fear to tread."

"Price Cutting," just as sure as day follows night, can only and does always result in inferior quality. While, some laboratories do not attempt to do much else than Wassermanns and a few

minor examinations in other lines, we have run up against "price cutters" in Basal Metabolism tests. They make such examinations for \$10.00 and, I was told, could run four in an hour. We charge \$15.00 and, many times, it takes me *one to two* hours to satisfactorily complete *one*. Here, too, we recognize the possible fallacies and take time to make certain they are eliminated.

For the benefit of the practitioner, his patients and those of us who are trying to do real scientific work, I believe it would be most desirable to exclude the advertisements of the Cut Price Laboratories from the ILLINOIS MEDICAL JOURNAL.

### CULTS CAN SIGN DEATH CERTIFICATES IN ILLINOIS, SO SAYS THE ATTORNEY GENERAL

The Attorney General of Illinois has given the Director of Public Health the following opinion:  
Dear Sir:

I have your letter of July 6 and in reply will say that one who holds a license to practice "any system or method of treating human ailments without the use of drugs or medicines and without operative surgery" in Illinois may legally sign the death certificate for any patient who dies while under his care. *People v. Simon*, 278 Ill. 256. Such a person may not legally sign a certificate of birth or stillbirth unless he or she has also been licensed to practice medicine and surgery in all their branches or to practice midwifery.

One who is neither licensed to practice medicine in all its branches, nor to practice without the use of drugs or operative surgery may not lawfully sign a certificate of death.

One who is neither licensed to practice medicine in all their branches, nor to practice midwifery may not legally sign a birth certificate or still birth certificate as attending physician or midwife.

Your understanding is correct that the decisions of this office relative to osteopaths signing birth or death certificates applies also to licensed chiropractors and to all other persons who are licensed to treat human ailments without the use of drugs or operative surgery.

In accordance with the provisions of section 25 of the Medical Practice Act of 1917, when an osteopathic practitioner, chiropractor, or other

persons licensed to practice without the use of drugs or surgical operations signs a certificate of death, he should affix to his signature a prefix or suffix indicating the school of system or practice in which he is licensed to practice.

There is now pending in the Supreme Court the case of *People v. Schaeffer*, in which the contention is made by the appellant that the Medical Practice Act of 1917 is void *in toto* because of the decision of the Supreme Court in the case of *People v. Love*, 298 Ill. 304. The constitutionality of the Medical Practice Act of 1899 is also attacked in that case. On the other hand, it is the contention of the State that the effect of the decision in *People v. Love* is not to render the entire Act of 1917 invalid or unconstitutional, but only that part of section 5 relating to the qualifications required and the licensing of chiropractors, and that the Medical Practice Act of 1899, if in force, is not unconstitutional.

What is said above, therefore, is predicated upon the assumption that the 1917 Act is in force, with the exception of that part of section 5 above noted, and that if the same is not in force that the Act of 1899 is constitutional.

#### THE HEALTH DEPARTMENT AND THE VENEREAL PROBLEM. IF THE CHICAGO HEALTH DEPARTMENT WANTS VENEREALLY CLEAN CITY WOULD IT BE FEASIBLE TO BLANKET THE MUNICIPALITY WITH A STRICT PLAGUE QUARANTINE?

A large portion of the population of the city of Chicago is appalled at a recent doctrine exploited by the Chicago Commissioner of Public Health. Unless this earnest physician has been misquoted and misrepresented sadly, this new doctrinism will result in making commercialized vice safe from the consequence of venereal disease.

The tenets embrace a recommended installation of vending apparatus in brothels, public comfort stations, drug stores and similar general resorts, from which machines and by automatic, impersonal service and at a nominal price, men or women, can secure "prophylactic outfits" that will grant a disease free excursion along the primrose paths of pleasure. This suggestion in a large measure is most revolting, especially when it is elaborated upon to the effect that the price

a man pays for service in a brothel should be made to include a prophylactic kit.

The plan details further that the divekeepers should have "the women inmates instruct men in the use of the sets." Truly the day of the mercury fountains and public needles at every corner must be just in sight.

That the army and navy used these safety first kits during the war is small defense for any high minded physician's attempt to aid an entire citizenry to bend beneath the wand of Priapus.

If promiscuous sex-indulgence is made disease-free, then naturally enough the next step will be to make promiscuous sex-indulgence free from conceptions. This latter result might be accomplished by furnishing contraceptive devices either in the same packet with the anti-venereal layouts or in a sister slot-machine.

Meanwhile the sane contingent, both medical and lay, sit and shiver and ask, "What next?"

Undoubtedly Dr. Herman N. Bundesen, Chicago's Health Commissioner, has the welfare of his municipality at heart when he seeks to rid Chicago of the protean pestilences of syphilis and gonorrhea. Chicago was freed from milk and water borne diseases by Dr. Bundesen's predecessors who have safeguarded the milk supply, chlorinated the lake water and laid a foundation for a local stranglehold on tuberculosis. So it is up to Dr. Bundesen, too, to make a record, to hold up his end and to hit the bull's eye as has been done by those who have gone before. Dr. Bundesen has chosen well when he sets out, as he has been quoted, to "drag the snake syphilis out of the bushes and beat its head off."

But in the very beginning of this task of cleaning up the Augean stables of uncontrolled desire, Dr. Bundesen strikes a snag. He has to get without the law to do his cleaning up. As some of his campaign ideas are directly against the present statutes he may have to have some new ones made. For example, Section 57 of the Criminal Code of the State of Illinois sets forth:

"Whoever keeps or maintains a house of ill-fame . . . shall be fined not exceeding \$200."

Now at the outset, Dr. Bundesen admits that if he knows of a house of ill-repute he is not going to report it to the police, or try to have it closed up, or anything so basically destructive as that, for his venereal disease campaign calls for the Health Department of the City of Chicago

to get out and sit in council with the keepers of such houses and their inmates. This is admitted in the issue of the *Chicago Tribune* for Tuesday, August 15, 1922, wherein was printed an article in which Dr. Bundesen, in explaining his plans, said unmistakably that he had already consulted with several keepers of brothels in regard to securing their co-operation with the health department campaign. An excerpt from the article will not be amiss:

"Direct and incisive measures to curb social diseases, including free examination and supervisory treatment of men and women at health department laboratories, were announced yesterday by Dr. Herman N. Bundesen, health commissioner. . . . The commissioner's plans involve a frank admission that there has always been vice in the world and the probability is that it will continue to be for some time. He therefore proposes to deal with this condition 'as is.'" Continuing the article proceeds "The war demonstrated that gonorrhea and syphilis practically can be eliminated by prophylaxis," Dr. Bundesen began in discussing his campaign which already has resulted in conferences with several "vice lords" looking towards "*establishment of relations between the health department and brothels.*"

In further direct quotation of the Health Commissioner this same article recites "I am for the establishment of a prophylaxis station in every brothel. I am willing to go farther. I am willing to have the women who work in those places sent to the health department laboratories for examination free of charge. If they can prove that they are under competent medical care they will not be hospitalized. The truth will be told them and the department will see that they get proper treatment. . . . This plan involves no extension of the powers or duties of the health department. It simply means that functions which have been lying dormant will come into action."

The commissioner's idea in treating these women is that he fears that the examinations made by the physicians employed by dive-keepers to "examine them" are both perfunctory and inaccurate, and that the women are so overcharged that as a result "these women must hustle so much the harder, thus infecting many more men, to meet these bills."

The article referred to cites a woman who is said to have come to the commissioner claiming that she had to have \$300 to buy her way out of the Lawndale hospital and that when she came out, she was found not to be diseased. Further the doctor adds that a divekeeper told him that "In nine years his doctor never sent back a single woman as diseased. Such examinations are a farce on the face of them when it is known that from forty to fifty per cent of the women taken in raids and examined by my department are afflicted either with syphilis or gonorrhea."

It is interesting to note that keepers of dives carrying from 16 to 50 inmates and even higher are quoted as having had council with Dr. Bundesen. One keeper who claimed that he "had 300 women under his control held a long conference with the health commissioner on Thursday (Ed's note, August 10). This man like many others was afraid that if his women were examined by the health department that they would be sent to the Lawndale hospital for treatment."

"We couldn't stand for that," Dr. Bundesen quotes one man as saying. "Some of my women are married. Their husbands work nights and they go home to their husbands early in the morning. Other girls under my control come in only occasionally to pick up a little extra money. They tell their parents that they are staying over-night with a girl friend. Others work in the daytime and come into my place only for a few hours at night. If any of them were sent to the hospital you can see for yourself what may happen."

The candor of the entire article strikes home squarely into the soul of every man who respects his mother, his wife, or his daughters. Think of young girls being countenanced into going into such places, made even more reckless by the knowledge that they can escape contagion! Truly the lion is about to lie down with the lamb when the men who break the laws of God and man make alliance with the men appointed by the executors of the electoral votes of the nation to carry out the laws. The American nation was founded and built by men and women who had fled the excesses, the petty tyrannies, and the unspeakable oppression of a sated European court. This nation has endured because the common good rather than individual sensuality and its super-gratification were the standards borne by



the citizenry. The home, not the phallic symbol, was the rallying banner. Religionists assert that more people are saved to orthodoxy "by fear of the Lord rather than by love of Him." The same might be said of a citizenry and its relation to that coherence of self restraint and comparative physical annihilation known commonly as sanity. More men have been saved from traffic in houses of ill-fame by fear of contracting the specific ailments maintaining there, than from any especially highminded distaste of such indulgences. Remove this obstacle and what is left? Nothing!

The bars are down. Down with a vengeance, too, when contraceptives are bandied about like ham sandwiches or mustard plasters. And what will come next?

What befell Rome? Athens? What happened to Babylon? To Sodom and Gomorrah? Tyre? "History Repeats Itself." Yes, and with axiomatic irony.

"The physical man needs expression"; "vice has been rampant since man began"—"Sex life is the heart of the world"—all these truisms are so ancient as to be but feeble mouthings when spoken by those who know better. Small wonder the editor of this JOURNAL was besieged by physicians with hundreds of telephone calls to "do something—say something—about this new venereal campaign that makes of medicine the handmaid of the brothel."

The merciless ravages of syphilis and gonorrhea are a needless spendthrift waste that few laymen and no physician will dispute. But the health commissioner of Chicago in his stamping out of community lues should remember the processes involved in attacking individual cases of venereal disease. The cure of the mass cannot vary from the cure of the individual. In syphilis intensive and faithful medication bests the 'pale spiral.' In gonorrhea, too, more is needed than some quack dope that fetches a rapid but merely surface healing. And again—does prophylaxis always protect? Is it infallible? If so what is the magic medicament and since when?

Most commendable are the ideas of Chicago's commissioner of health as to cleaning up syphilis and gonorrhea. But again may he be reminded that if he is really "going to fight venereal disease as we would smallpox" that he must be consistent?

If Dr. Bundesen is in earnest about cleaning up venereal disease in Chicago instead of holding out even a quasi-friendly hand to vice in its commercialized branches *why does not Dr. Bundesen quarantine the town?*

If Chicago held today as many cases of smallpox as it does of syphilis and gonorrhea, strict quarantine would be enforced. If syphilis and gonorrhea are going to "be fought as we would fight smallpox" how are we going to do it unless the town is put under such a quarantine? Then, the health department could cure up every afflicted individual among Chicago's several millions of people.

Politically speaking the idea would bear wonderful fruit. Necessarily there would result hundreds of nice fat political jobs, for inspectors and assistants, both lay and professional. Some of those nice friendly "vice lords" who have already sat in consultation with Chicago's health commissioner might be drafted in as emergency deputies and these could go along and help to identify the patrons and the patronized of their palaces of pleasure. Oh, yes, the job could be done up very thoroughly.

By this means Chicago can be made a pasteurized, chlorinated, salvarsanized, mercurialized, sandal-wooded, copaiba-ized, arseniated town that will make the metropolis of Illinois, without exception, the ideal of civilization. This civic virtue could bring trade returns of value. Both human and trade exports and traffic could be stamped "Chicago inspected. Venereally clean."

All imports, both trade and human, would be compelled to bear an equally exquisite stamp. Truly Utopia would exist here on the shores of Lake Michigan. For Dr. Bundesen is right when he says:

"A half million of the 800,000 boys who reach 21 years annually have contracted either gonorrhea or syphilis. By the time they are 28 . . . The cost in dollars and cents to the United States and its citizens, of these two great social diseases, is estimated at \$3,000,000,000 per year."

Now the most godlike attribute our frail race of men possess is creative power. Of course Dr. Bundesen remembers this. But has he calculated what the abuse of this gift may mean to the race? Degrade this function; reduce it to a catch-penny indulgence and what means this blasphemy? Whether man's reproductive instincts and powers

are the symbol of an orthodox God or nature's higher self, the debasement thereof is the placing in the gutter of the Ark of the Covenant. It is unspeakable. Not since the Christian era began has there been such reversion into Mohammedanism. The prophet's heaven would seem to be about to be revived on the ruins of the old Twenty-second street district. Two days after the article quoted from had been printed the *Chicago Tribune* published an editorial referring to it from which this following paragraph has been culled; "Brothels are supposed to be, can be, and should be abolished in Chicago," runs the conclusion of the *Tribune* editorial. "We cannot see how society with all the values it must consider can deal with the straightforwardness of a medical man who knows that the way to attack a disease is in its stronghold and not on its margin. Commercialized vice is a moral as well as a physical disease."

An editorial in the *Chicago Daily Journal*, on August 16, comments on the Bundesen plan by saying "Dr. Bundesen proposes co-operation between the municipal health department and disorderly houses. But such houses are expressly forbidden by law. . . . Venereal diseases are a terrible curse. Every doctor and every health department looks forward to the day when they will be wiped out. But the campaign against them must proceed according to law, or it will do more harm than good. If Dr. Bundesen thinks the laws on such questions should be changed, it is his right and privilege to go before the next legislature and recommend such modifications as he deems desirable but he has no right even to contemplate a league between his department and open notorious violation of the criminal code."

And the *Chicago Evening Post*, on August 17, says editorially: "When Dr. Bundesen proposes to co-operate with lawless resort keepers in providing prophylactics for their patrons he goes further than is either right or wise. This is a plan for preventing physical ills at the cost of encouraging vice. It is rather amazing to read of the city's health officer calmly discussing such a plan with a so-called 'vice-lord' who is said to have 300 women at his beck and call. If Dr. Bundesen knows such a man his first duty is to report him to the chief of police. Commercialized prostitution is not lawful in Chicago and no

city official can afford to deal with it as a tolerated institution. If Dr. Bundesen knows of resorts operated by such men he should get some large placards, such as he uses for quarantining contagious disease and nail them in conspicuous places on the outer doors as warning to all who enter of the physical dangers they must encounter. Then let the police take the obvious hint and act."

Some several hundreds of letters and calls were received, it is said by the health commissioner, within a day of the publication of his suggested plan. He is reported to have said that most of these were commendatory and congratulatory. Some few took exception. Among the exceptions were many women and representatives of women's civic organizations though among these last named there were many in favor of the Bundesen plan. That there is a difference is interesting to note, especially since these are supposed to be the days of reconstruction. But just how are we going to reconstruct? Are the American people to progress under the standards of rock-ribbed virtue by which men and women who stepped out on Plymouth Rock, and the men and women who charted and lived up to the Declaration of Independence gave the United States a birthright of clean civic perspective? Or are the American people about to assemble under the flag of Priapus and to dwell at the Sign of the Phallic Symbol forever? Is it there that the "new Americanism," built upon a thirst for sensationalism and sensuousness would erect a decadent modern Babylon where the harlot is queen, and every home breeds Messalinas instead of mothers? What else can be expected when a man drops a nickel in the slot and buys his venereal prophylactic as he would a stick of chewing gum? Or where, like a prize package, this "safety first kit" is included in the price he pays for his "pleasure" in a brothel, together with instruction from his lady as to how to use his "kit?" Millions of dollars of American money are spent annually for sending missionaries into the heathen far places to teach them the Christian religion, built upon the repression of the animal in man, and teaching as a fundamental, respect for women.

Here in Chicago is set forth in all sobriety a prophylactic campaign that will throw open wide the doors of woman's most pitiful profession,

even to little girls, still in the school room, with all dire results eliminated.

Can it be that in teaching the ethics of morality, in leading the nations away from the progress of paganism, that like charity, America's mission work should begin at home? Which will our municipality choose—a nation of mothers or a country nested with voluptuaries? God forbid that above the Stars and Stripes any misguided, theoretical radical shall ever place the flag of Priapus and the bar sinister of the Phallic Symbol.

### WHY DOCTORS HEAD THE 1921 SUICIDE LIST

An inside story of the poignantly destructive responsibilities of the medical profession is made public through the announcement that, as a group, physicians lead the classified lists of suicides for the year 1921.

Within a twelvemonth, occupational strain and economic stress so ground those men and women who are covenanted to prolong and to save life that eighty-six doctors ended summarily their mortal existences.

Unending hours, irregular opportunities for food, rest and diversion; the persistent psychic demands of patient after patient, and above all the harassments and embarrassments of hazardous incomes proved in exactly eighty-six cases too much for Spartan courage, superhuman patience and human flesh to endure.

From these figures and conditions a lesson must be learned and heeded. It is high time the doctors called the turn.

Physician suicides stand exactly twelve and two-sevenths times as great as the lowest class on the list submitted by the "Save a Life League," for the "Mayors" as well as the "Members of the Legislature" who ranked seven each as a group. "Judges" ranked next to the doctors, with 57 suicides to their credit; "Bank Presidents" came third, with 37; "Clergymen" fourth, with 21, and "Editors" fifth, with 10.

Calculating purely on a percentage basis, this would show that 51 per cent. more doctors than judges, and 54 per cent. more judges than bankers were led into the slough of despond from which only eternal mercy can effect a rescue.

The deduction is that the man who keeps alive the physical part of his fellowmen and aids the

body to co-ordinate with the brain, "mens sana in corpore sano," has a task exactly 50 per cent. harder than does the man who metes out the justice of existence; a job 132 per cent. more difficult than that of the men who finance life, and one practically three times as deadly as that of the man who tries to make the soul of his fellowmen fit for what shall come after! Though the strain of the "Fourth Estate" is traditional, yet these suicide figures would seem to show that some poisons breed their own anti-toxin, as surely an inherent philosophy gained from watching the procession pass must aid the "editors" to achieve that low rating of 10! As for the lowest ratings of all—

Who hath not said that "Politics is its own defense?"

Perhaps, like the squid, the professional politician can play the chameleon even with his own conscience.

Steps should be taken immediately to investigate the causes for this debacle in morale among the men of medicine and a specific sought for without delay. The world needs all of its doctors. "Physician welfare" is an important study for the conservation faddists. Especially since overwork, breakdown and poverty are three insidious factors towards self-destruction.

In the survey of suicides conducted by the "Save a Life League," it is set forth that among the 12,000 suicides accounted for and the 20,000 estimated the vast majority of these pitiful victims were shown to have had financial trouble as a dominant motive even though 30 very rich women and 76 millionaires went the way of self-administered death. In the instances of several of the learned professions, suicide offers the only exit from disgrace caused by a violation of class ethics. This is not true of the malpracticing physician, who stands a most excellent chance of acquittal when he comes to trial. More than almost any other group members, the physician must balance continually his pocketbook against his practice. The charity patient and the uncollectible bill are the leaks that cannot be mended in his personal ship of state. Every hour a doctor gives to a charity patient must be subtracted from the time he would allow himself for recuperation. How many physicians, in addition to giving of their time to those who cannot afford to pay—and only too often to those who have no desire to



pay—find that one generosity begets another and that the virtuous service that must be its own reward must be followed up by gifts of medicine and other supplies?

There has been no postbellum drop of moment in physicians' supplies. The cost of merely living falls heavily upon the physician's head. A standard commensurate with the dignity of his profession must be maintained. And in addition to the physician there is his family. It might be remarked also that a physician's family is a great deal like any other family—no whit less troublesome, no whit less expensive and certainly not fed upon manna from Heaven nor clothed in garments dropped miraculously from the clouds.

Another and a delicate complication of modern life places upon the long suffering physician an ever-increasing burden of which the laity has no idea. The steady debouchment of the world at large from puritanical guages of family life flings its backfire into the consulting room chair. Passing sex and social hygiene by the way there remains the mental anemia of this condition. For every five cases of marital unhappiness and unrest that land in the divorce courts there are at least twenty-five settled quietly in physicians' offices.

Never in the history of the country have divorce figures reached the appalling magnitude that they have achieved today. In Chicago a few months ago a popular judge retired from the bench because he was heart-sick and soul-sick of the broken homes whose irremediable fractures were brought to him by hundreds and hundreds of men and women. The judge simply could not endure such woe any longer. And yet for every such recital before a judge in the courts, stop and think for an instant of the stories that come only to the ears of doctors. There is no closed season for trouble behind the doors of the physician's office.

The man mentioned above is the third Chicago judge to find his people's troubles more than he could bear. One of the first to abandon his assigned bench was the man who controlled the destinies of Chicago's juvenile court and who went later to the Supreme Bench. This man was not slow to state that his heart-strings could not endure the strain. The toll taken upon his subconscious strength was too much for him to bear.

The fourth judge who died in Chicago while still in the years of high maturity said that his

demise was hastened by the sorrows of his hearings in the psychopathic court. The heart break, and the sorrows of a clientele cannot be denied.

But where sits a mortal judge who knows the heart aches, the tragedies, the frailties of the human body and the mortal mind as a doctor must know, must gauge and adjust them?

And again, where does the money come in? Not that a physician does not expect to take at least four-sevenths of his recompense in the unquotable gold of ethical markets, but while physicians remain men and women instead of gods they cannot find sustenance for their mortal bodies from fairy food and imaginary raiment and shelter. "Little table spread yourself," "little wardrobe fill yourself," "little house go build yourself," are as yet a white magic far beyond the doctor's medicine cabinet, his obstetrical bag, or his surgical case. He must have a roof, he must be covered, he must eat. But how? And when? And if the wherewithal shall fail him, what surcease has he but that draught of Nepenthe that life affords even to the most loathsome tramp or lowest criminal—death by his own hand.

What a blot upon civilization! What a stigma upon a people that the profession tries to save even to the point of self-sacrifice.

"Skin for skin—all that a man hath will he give for his life and greater love than this hath no man, that he lay down his life for his friend."

From every medical college in the country, year after year, come the young men and young women who have covenanted to do this very thing. The doctor is a tireless beast of burden. He must smile like a mountebank in the hearts where sorrow sits supreme. This is his choice, his lot, his happiness, but what Dead Sea fruit is served him from some of the people he drags back from the brink of death, and from suffering to which death itself would seem a kindly panacea; what Dead Sea fruit the doctor does get, we repeat, when the dead beat gets by with his doctor's bill. The dead beat crop never fails. It flourishes anywhere and everywhere, but the prize ears of the lot are always to be found on the dead beat side of the ledger of the soft-hearted, conscientious doctor. And they get him and they get him until the poor man, because he cannot be dead beat any longer, has to get under the sod himself. Here is a poignant national tragedy.

Before long it will prove itself to be a piercing national boomerang.

The colloquialism, "Tell it to the policeman," is paraphrased to "Tell it to the doctor." With a certain class of disappointed, unhappy neurasthenic wives who seek the medical ear, it is less physical than psychical distress that they vend. The ability to grapple with one's own problems and to fight them out, either to a solution or into the discard, seems daily to be disappearing from the citizenry. With the falling away from home and church, the horde in exodus seeking a scapegoat fixes upon the men of medicine. Today the rash of voluptuousness excoriates the finer senses of the world. This subversion of mind before matter shouts for the saving balance of a normal mentality. And it is this continual drain upon the reserve sanity that is the doctor's saving sword and buckler which leaves him weakened, distraught, defenceless against his own battles of the "world, the flesh and the devil." When a husband is nagged and pestered to death by a querulous, whining woman he can at least slam out of the house and leave her. When that same woman comes to the doctor to tell him of her own pains and her husband's faults, the doctor must sit and listen.

When the woman has relieved her mind the doctor must prescribe for her ailments and settle her emotional *mal de mer* with kindly comfortings or brutal sophistries, whichever fits the case. When the doctor is rid of the woman by the front door of the office, her husband is only too apt to come in at the side entrance and tell his side of the case. The young physician in the optimism of his inexperience survives this everlasting and vicious circle for a few years. Later he, too, is prone to be caught in its miasma. Men and women will shirk responsibility today at any price. Hedonism is exalted. We are "drunk with desire and would be gods."

The church the world over, in all creeds and all canons, complains that science has usurped religion. To which the retort courteous is that the church has dumped much of its bounden duty on the physician. The hunger for spiritual satisfaction felt by an ailing, pampered people is evidenced by the tremendous growth of the semi-religious quack cults. Not "leave it to George," but "leave it to the doctor" is the rule of three today.

Summed up, the current mental, moral, finan-

cial and physical strain upon physicians is a matter of attention for the Society for Prevention of Cruelty to Animals. Perpetual motion is supposed to dwell in the physician's physique and at less hourly cost than that expected by an expert masseur or beauty doctor, to say nothing at all of the modistes and milliners. Yet the doctor has for himself no magic remedy more potent than those he gives his patient. Only too often he has neither the time nor the money to take those very rest cures which he prescribes for patients in far better health than he is himself. Medicine in itself is a self-destructive profession to its dispensers. When conditions become so terrible that a doctor is moved to hasten the inevitably speedy end, then indeed the time has come for the profession to take meticulous inventory of its past, present and future.

To standardize the medical profession in the matter of hours and of routine will be impossible so long as Mother Nature clings to her feminine prerogatives and vagaries. Unborn babes refuse union schedules. Death and time scoff at sheathing their sickles at the behest of walking delegates. But it is altogether possible and soon it must come to pass that a species of community working shift, a more adequate financial return, and a keener appreciation of the physician's personal responsibility to himself, shall be put into effect.

Along with this must come a larger teaching, beginning in the elementary schools, of the necessity for the individual's learning to bend his back to his own burden instead of shifting his load to the backs of others, especially those with "M. D." at the end of their signatures. There must be a change in this attitude of expecting about three thousand dollars worth of sympathy and an instantaneous solution of all problems from bringing back a lover to finding a housemaid, for the payment of a fee of three or five dollars. "Grin and bear it" is the law of life. Why should patients demand that physicians, like Caligostro, shall pull from their saddlebags an anesthetic that shall produce a permanent *neurasthenia* for every *neurasthenic* on the books?

Surcease from these nuisances, reasonable rest, easier routines, better pay, and more personal consideration both communal, civic and individual, will wipe out that stain on the suicide list. Give the poor doctor a chance through legislation, for protection from the bolshevist in his

ranks, for decent money return and for time off for repairs.

Let it be remembered that a doctor is a man who works overtime all the time and for more than half the time for less than half pay.

With grim chagrin the doctors are realizing that in the financial budgets of the laity the one item that is expected to remain stationary while other costs of living mount to the skies is the item "Medical Fees." How many patients take cognizance of this? Living commodities have been on the ascendant for nearly ten years. How about the doctor? A five-cent loaf of bread of former years sells now for from thirteen to eighteen cents. Yet a former five-dollar fee of the physician is a long ways from having attained thirteen or fourteen-dollar dimensions. Instead, while a loaf of bread that sold in 1914 for half a dime cannot be obtained now for practically three times that amount, while a street car fare that was almost universally five and in some cities three cents, in 1914, runs now all the way from six to twelve cents, and a ministration for which a doctor was paid five dollars perhaps in 1914, still brings in to the physician only five dollars, perhaps, often, less than two.

The absorbent cotton, the gauze, the quinine, the mercury, the herbs and the chemicals the doctor uses in his task have soared amazingly. Today the physician practices on credit, and in this respect he is less fortunate than his brothers in the dry goods, grocery and gas business. Very rarely is a doctor paid in full for his services. If he takes businesslike steps to collect what is justly due him, nine times out of ten the doctor is dubbed an ungrateful cuss and comes in for a lot of vengeful back fire, usually in the form of threats of a lawsuit on the part of the patient, which litigation of course would be purely blackmail and an artifice on the part of the patient to evade payment of a just compensation to the physician.

Today the medical profession is just about the worst abused profession in the business. The general public appears to believe that physicians are a group of endowed philanthropists created to serve gratuitously the common weal and to proceed to accept medical attention upon that ideational basis.

These are high-speed days. Regardless of dangers along the road, the doctor today must run

with his gears on a high gauge. The era has passed forever when the doctor could jog leisurely along behind his dapple nag, running contentedly enough on a low speed over highways broad and free, and beset with many ruts along the way to fame and fortune. Those were the days when the public held a family relationship with the physician. He was loved. He was held in high esteem and in the infrequent instances when money failed to be forthcoming for his bills, the doctor of the generations preceding knew that it was actual lack of cash rather than a desire to get out of handing over money that left the bill unpaid. Often, too, the doctor found himself well paid in appreciation. Those times are gone.

Medicine, as has been repeated here often, is one of the few constructive professions that is self-destructive. By conserving the health of the nation, medicine slay itself. Speaking in liberal terms, the factors contributing to the peril of those sciences that have reduced illness to a comparative minimum and instilled into the minds of the people a sense of false security are the lessening of morbidity due to hygienic education and practice; diminution of disease due to specific treatments for its specific manifestations, overcrowding of medical profession due to ethically unequipped and poorly qualified membership, state preemption of professional privilege and other economic factors affecting necessary revenue, increasing national disposition to paternalism, bureaucracy, centralization, over-specialization, medical legislation, attempted financial segregation, unqualified admissions to license to practice, and above all a national tendency on the part of the citizenry to attempt to get everything for nothing out of the doctor!

If there is one bill the average citizen seems to hate to pay it is the bill for keeping his human machine or that of his family in working order.

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#### IT APPEALS TO DOCTORS OF THE EASY GOING TYPE

Sociological medicine offers a new field for specialization, and makes a strong appeal to doctors of the easy going type, with comfortable incomes. Many sociologists form the ranks of life insurance workers and public health officials, but no doubt these are distinct from specialists in sociological medicine.—*Town Gossip*, San Francisco, April 15, 1922.



# CONGRESSMAN VOLK COMES TO THE ASSISTANCE OF ILLINOIS PHYSICIANS.

CONGRESS OF THE UNITED STATES  
HOUSE OF REPRESENTATIVES

Washington, D. C., August 28, 1922.

To the Editor: I am enclosing copy of a letter written to me by a physician of your state and copy of my answer to him.

Please print in full if you have space.

The enclosed covers several very important points and puts several important matters on record of which the profession is not informed.

I am calling your attention to this correspondence because on the face of these statements as made by the doctor, this case may contain elements similar to those exposed in the press reports of the attack upon the acquittal of Manning of North Carolina and others who in honesty and good faith and trust proceeded in their uppractice and presented the facts of their work to officials—asking for advice and information and receiving indictment.

It seems to me that the statments as made in the enclosed letter *should receive the attention of your State Society and be called to the attention of your representatives in Congress with demand for the investigation of the officials concerned, and of the facts of the case.*

(The facts, of course, I am unfamiliar with other than as stated in the doctor's letter to me.)

Warrant and obligation for this is to be found in the address of the Speaker of the House of Delegates at the St. Louis convention, Journal of the A. M. A., May 27, 1922, whose attitude was endorsed by the convention in approving House Resolution No. 258.

In speaking of the rights of the medical practitioner, the speaker of the house of delegates states:

"We have too long been silent and permitted the individual doctor to remain the undefended party. . . ." The individual practitioner's interests warrant our deepest concern and his future welfare merits our solicitous and combined assistance. Willing as he has always been to contribute his 100 per cent. to the welfare of mankind, *he should never again be made the victim and the object of such enactments as the Harrison Law,*

the Medicated Alcohol Rulings, the Sheppard-Towner Bill, and similar enactments, without our standing by his side and presenting in his behalf our associational influence and arguments for his protection against inadvised imposition and unjustified attack."

The general sentiment of the professions and of the independent journals seems to be strongly behind such declaration as that of the speaker of the A. M. A. House of Delegates and the action of the St. Louis convention of the American Medical Association.

The general and widespread scientific organization endorsement of demand for congressional investigation of the narcotic drug situation (including the interpretation and administration of the laws), and the many communications and clippings, etc., that are sent to me coming from scientific men and scientific journals show the widespread general dissatisfaction and sense of injustice.

They give rise to question as to the accuracy and source of origin of such statement as is made in the report of the Board of Trustees that "physicians are satisfied with the control of narcotics as regulated under the Harrison Narcotic Law" and of such policies and recommendations as have come from the Council of Health.

Such statements and policies and recommendations apparently do not represent true "concensus" of medical and scientific opinion.

They should be publicly modified and corrected lest they be made use of in anti-medical propaganda or to support or excuse "unjustified attack" upon medical men.

In my letter to Dr. Cass I quoted a decision from the U. S. Court of Appeals. Permit me to suggest that this decision is very important to medical men and to the public, and that if it or any other important decision is carried to the Supreme Court the medical profession should see to it that full and fair scientific information is placed before that body, and it not be misled by suppression of fact or partisan presentation.

I received the August issue of your Journal. I endorse your comments upon "bureaucrats" and "bureaucracies." You have tersely expressed and discussed the *one great issue in this country today.*

Very truly yours,

LESTER D. VOLK.

## LETTER FROM DR. CASS TO CONGRESSMAN VOLK

George T. Cass, M. D.

804 First National Bank Building,

Danville, Illinois.

Lester D. Volk, M. D.,

August 23, 1922.

Brooklyn, N. Y.

Dear Doctor:—

I have read with much interest your speeches in congress on the Harrison Narcotic Act, as at present, I am under indictment for violation of the rulings of October 19, 1921. In your last speech of June 29, 1922, you stated the A. M. A. in convention repudiated the findings of the Council of Health and Public Education. I have looked through the records of the A. M. A. meeting at Boston, as reported in the Journal A. M. A., but am unable to find it. If you will tell me where I can find it I will appreciate it very much, as I wish to use it in fighting my case.

I was treating some patients by a gradual reduction method I had worked out when I received a circular from the Narcotic Enforcement Bureau giving the new ruling of 30 days to complete the cure. I immediately wrote explaining my method and asking if I might have an extension of time as my patients were progressing so well. They did not reply only by sending two inspectors. I showed them my records and they interviewed my patients, and told me they could only say I was acting in good faith.

I heard no word from them till March, some two months later, I received an indictment before the Federal Grand Jury for violation of the Harrison Narcotic Law.

If you can give me any advice or assistance in the case I will greatly appreciate it, especially where I can find the repudiation of the rulings of the Council of Health and Public Education.

My case comes up on the first Monday in September in Danville Federal Court so an early reply will be greatly appreciated.

Fraternally yours,

(Signed) G. T. Cass.

CONGRESSMAN VOLK'S REPLY

CONGRESS OF THE UNITED STATES

HOUSE OF REPRESENTATIVES

Washington, D. C., Aug. 28, 1922.

Dr. George T. Cass,

Danville, Illinois.

Dear Doctor:

Your letter received, asking me for reference

as to the action taken by the American Medical Association on the narcotic matter.

Direct resolutions, introduced and acted upon in open convention and approving my Congressional "House Resolution No. 258," are noted in the Journal of the American Medical Association for June 3, 1922, reporting the last convention of the association, St. Louis, May, 1922.

Enclosed is reprint of my speech of January 13th, containing the text and declarations of "House Resolution, 258."

The Treasury rulings to which you refer seem to have originated in a request of a Dr. Haven Emerson at a conference of the Council of Health on November 11, 1920. It is referred to in the Journal of the American Medical Association, January 14, 1922. The request upon the Revenue Commissioner to incorporate this material into a ruling was apparently merely the action of the five men of this Council, unknown by the association itself.

Emerson's narcotic report, from his committee, was rendered in June, 1921, at Boston. From what I can learn, it was never openly presented to and endorsed by the Association. There seems to have been considerable controversy and quibble claiming its endorsement, but I have found no absolute proof of its having been openly adopted by the Association. It is mentioned in my speech.

In any event, the recommendations of Emerson and his committee or council are entirely at variance with the material and statements in House Resolution No. 258, which was specifically approved by open resolution of the convention at St. Louis, May, 1922.

I have recently received Public Health Reports (U. S. Public Health Service), Vol. 37, No. 30, containing reference to decision by U. S. Circuit Court of Appeals, Eighth Circuit, Hurwitz v. United States, 280 Fed. 109.

This decision supports the contentions of my speech of January and my extension of remarks of July, 1922.

It bears upon the point you raise concerning administrative rules and regulations and opinions and definitions.

It declares that "Congress can not delegate legislative power to an executive officer."

It also states that if Congress had intended any such limitations or prohibitions as the matter

concerned in the administrative ruling or interpretation or definition, "it would have said so."

Adverse comment upon the apparent sources and origins of some of these rules and regulations and their scientific status has appeared in your own State Medical Journal and elsewhere. Undoubtedly you are familiar with this material.

You will find a report of the Committee on Legislation of the New York State Medical Society referred to in my first speech. It contains very significant statements.

Trusting that the above gives you key to the situation in medical organization reference and answers your questions in that respect, I am,

Yours very truly,


(Signed) LESTER D. VOLK.

NOTE:—Congressman Volk is a physician with several years of active practice to his credit. Later he became a member of the bar, and is now in Congress from the 10th district, New York.

#### EASY MONEY

In the course of our wide reading, for the benefit of JOURNAL subscribers, one of us found, in the Police Gazette of July 1st, the following advertisement which we have photographed:

ANYONE : : ANYWHERE

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**You Can Easily  
Learn to Be a Doctor**

We give you easy lessons by mail and give you a beautiful Diploma. We teach you to treat all kinds of sickness. You can open a Doctor's Office in your own home and

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CHICAGO

ILLINOIS

N. Y. State Journal of Medicine, August, 1922.

## MAINE REJECTS SHEPPARD-TOWNER MATERNITY ACT.

The Governor of the State of Maine has rejected on behalf of the State of Maine the Sheppard-Towner Maternity Act. His rejection holds good until the next session of the State Legislature.

Massachusetts, New York, Rhode Island have positively rejected the Sheppard-Towner Maternity Act. The Louisiana Senate committee on Health and Quarantine reported unfavorably on the bill to accept the federal act, and now comes the good old State of Maine, presided over by a red-blooded American who refuses to co-operate with this paternalistic scheme. The people of Maine have reason to be proud of their Governor, and in rejecting by proclamation the bride of the Sheppard-Towner Maternity Act, Governor Baxter has shown himself true to the ideals of American manhood. In his proclamation the Governor said: "Maine neither asks nor accepts federal aid for mothers and children—it is time for the states to hold to the principles of the constitution and guard against all further encroachment by the federal government."

Further he said in part:

"I believe the time has come for the states of the Union to hold to a principle and to carefully scrutinize all offers of 'federal aid' before accepting them. Having no doubt as to what my duty is in this matter, I decline to accept the Sheppard-Towner bill, and this state for the time being will stand with New York, Massachusetts and Rhode Island, the three states that have rejected it. The State of Maine will not sell its birthright; and principle, not expediency, has been the determining factor with me in the solution of this problem.

"The people of Maine are willing and able to care for their own mothers and children, and I have faith to believe that Maine men and women will do this rather than accept so-called gratuities from a federal bureau.

"The Sheppard-Towner bill is to be attacked in the courts by the commonwealth of Massachusetts, and eminent lawyers are of the opinion that the federal government has no power over the states in maternity and child welfare matters. There also is grave doubt as to whether or not the governor of a state has the power to accept the bill in question, even though Congress at-



tempts to confer that power upon him. The governor of a state does not derive his authority from the federal government, and a federal bill that seeks to confer new power upon him is of questionable standing.

"The existing provisions of the Sheppard-Towner bill are reasonably moderate, but it properly may be assumed that attempts will be made to broaden its scope so as to further restrict the state's control over its own affairs. It is apparent that the present bill is but an entering wedge for more radical legislation."

Governor Baxter's warning should not go unheeded by any right-thinking man. It is perfectly obvious that the respective states are perfectly competent to administer their own affairs through their own agents and officials. This is not true of a bunch of bureaucrats and political appointees working from Washington. As we have stated several times before, bureaucracy wherever operated has proved incompetent, extravagant and a menace to the welfare of the people. If the tendency towards bureaucracy and the attempt of the federal government to assume duties that properly belong to the respective states is not halted our American plan of government will fail. Already we have built up in this country a most dangerous form of tyranny, a meddling paternalism which knows no master. In the Sheppard-Towner bill the menace is hidden in an assumed humanitarianism. As we said in our last issue, there are thousands of paternalistic bills before Congress, all sponsored by fanatics and dream-book artists. Senator Borah, in referring the paternalistic bills in Washington, said:

"The course which we are now pursuing will prove in the long run more dangerous to our government than a foreign foe. A proud, strong nation may suffer a reverse in arms, but time may still find it triumphant. An independent and self-reliant people may be overcome by the fortunes of war, but time fights on their side to final victory. But a nation whose citizenship has been drugged and debauched by subsidies and gratuities and bonuses, who have surrendered to the excesses of a treasury orgy, has taken the road over which no nation has ever yet been able to effect a successful retreat."

Men are wise if they are wise in time. Unless a halt is called to the paternalistic tendency

of the times, the people of America will be the most standardized and regulated people in the world, and we will all be on the pay roll as spies watching one another.

## MEDICAL BOARD APPROVES THE RECOMMENDATIONS OF DIRECTOR

W. H. H. MILLER

At a meeting of the Board of Medical Examiners (Department of Registration and Education) held in Chicago, June 13, 1922, the Director, W. H. H. Miller, submitted the following plans, which were unanimously adopted.

1. The Director of the Department of Registration and Education requests your cooperation in countersigning all licenses issued by the Department for the medical professions of Illinois. A copy of this notice to be sent to the County Clerk of each county in the State of Illinois, also to the Secretary of each state medical board to notify him that no licenses issued by the Department of Registration and Education are to be recognized unless countersigned by each member of the Board of Medical Examiners.

2. That each member of the Board prepare the questions in the subjects assigned him for examination; that he become the sole custodian of said questions, present them at the examination, under seal, collect the books of the examination; become custodian of these books and rate them; then turn them into the Department, instead of the former plan which consisted in sending the questions to the Department for printing and distribution.

The Director desires further the full cooperation of your Board in requiring an accredited high school diploma or its equivalent for the eligibility of Other Practitioners.

4. On May 18, 1922, the Director addressed the following letter to the Chairman of the Board:

Dr. J. R. Pennington,  
Chairman, Board of Medical Examiners,  
Chicago, Ill.

Dear Doctor:

The Director of the Department of Registration and Education desires to assure your Board that it will have his full cooperation in the revocation of any and all licenses issued irregularly and upon the written action of a majority of your Board will immediately revoke any and all

licenses recommended by you for revocation coming under your Board's jurisdiction.

Very truly yours,  
W. H. H. MILLER, Director.

## IS THE PRACTICE OF MEDICINE TO BECOME A FELONY?

### THE INDIFFERENCE OF THE MEDICAL PROFESSION IN LEGAL MATTERS

Experience has taught us that when we want to really accomplish a task it is better to give it to a busy man; when we want it to be done more rapidly and with accuracy we assign it to a very busy man. The medical profession has taken this so literally that when legal enactment is threatened they sit back supinely, trusting that their duly elected officials will do all that is necessary to protect them, and just as thoroughly determined that they will do nothing to protect themselves—a most instructive example of “expectant treatment.”

Is it not about time that we awake to the needs of self-defense? Each time the Houses at Albany adjourn without actually declaring the practice of medicine to be a felony, the profession takes a long breath and with a feeling similar to Micawber, on the first of the year when he renewed his I. O. U., they “thank God that's over.”

The chiropractors think enough of legalizing their chicanery to pledge large sums for the furtherance of their interests—they pay the legal profession well to defend them—they appear both in person and by testimonial—they plead persecution and prosecution—they weep great salt tears on the shoulders of our lawmakers, while at the same time they are stealing the lawmakers' birthright, viz., safeguarding the public from quack and charlatan.

Let the medical profession start its own public propaganda. *Tell the people the truth.* We plead only for a just and proper legal restraint and a Regents' control which is applicable to all professions in the state. We think there is a difference between six years in the study and preparation for a medical career and six weeks in the preparation of a chiropractic. We don't believe that a chauffeur who could not write his name is qualified to be a full-fledged chiropractor or anything else in the above time. We may be prejudiced, but we state it as an honest conviction.

On the other hand, ought we to blame the embryo chiropractic? It is a short cut to a gullible public—the Palmer school, which dominates the advertising, pleads his cause for him, and does it well. He has only to raise funds enough to pay for the course, save sufficient to purchase a sign and table, and there you are—perfectly simple, simply perfect.

It is unfortunate that the medical profession does not take on self-insurance—pay dues to the State Society sufficient to maintain the proper machinery for its own protection. We pay two or

three hundred dollars yearly as dues in a golf club—health insurance. Think of it—three hundred dollars for health and amusement, and the Medical Society of the State of New York gets five dollars each from its 9,500 members to carry on the work of survival, not to mention the 5,500 other physicians in the state who do not care enough about medical matters to even belong to the state organization.

We never will be able to do the medical business of the state on a five-dollar per capita basis.

Let the need of a greater revenue be agitated and published, and we believe that with better organization and a wider knowledge of facts and the good accomplished both profession and laity will realize their mutual obligation.—N. Y. State Journal of Medicine, August, 1922.

## TRI-STATE DISTRICT MEDICAL ASSOCIATION

Synopsis of the program of the annual assembly of the Tri-State District Medical Association held at Peoria, Illinois, October 30, 31, November 1 and 2. (Territory includes Iowa, Illinois, Wisconsin and districts of surrounding states.)

*First Day, Monday, October 30, 1922, 7 a. m.*

1. Diagnostic Clinic (Surgical). Preference, abdominal cases. Dr. William Seaman Bainbridge, New York, N. Y.

2. Diagnostic Clinic (Medical). Preference, cardiac, mediastinal, pleural or intrapulmonic disease. Dr. Charles F. Hoover, Prof. of Medicine, Western Reserve University, School of Medicine, Cleveland, Ohio.

3. Diagnostic Clinic (Surgical). Dr. Emmet Rixford, Prof. of Surgery, Leland Stanford Junior University, School of Medicine, San Francisco, California.

### Intermission

4. Diagnostic Clinic (Medical). Preference, peptic ulcer, anemia, or goiter cases. Dr. John A. Witherspoon, Prof. of Medicine, Vanderbilt University, Medical Department, Nashville, Tenn.

5. Diagnostic Clinic (Surgical). Preference, abdominal cases. Dr. John B. Beaver, Prof. of Surgery, University of Pennsylvania, School of Medicine, Philadelphia, Pa.

*Afternoon Session, 1 p. m.*

6. (a) Diagnostic Clinics (Nervous Diseases). One epileptic patient, one brain tumor, one spinal cord tumor, one trifacial neuralgia, one spina bifida, one cerebral arteriosclerosis, one pernicious anemia. Dr. Alfred W. Adson, Dr. Henry W. Woltman, Mayo Clinic, Rochester, Minnesota.

(b) Diagnostic Clinic (Nervous Diseases). Preference, brain tumor, spinal cord tumor, fracture of the spine, old fracture of skull with epilepsy. Dr. Charles A. Elsberg, Prof. Clinical Surgery, University and Bellevue Hospital, Medical College, New York, N. Y.

7. “Injuries of the Cornea.” Dr. Alfred N. Murray, Chicago, Illinois.

8. Diagnosis and Treatment of Epilepsy. Dr. Edward M. Williams, Sioux City, Iowa.

9. (Wisconsin man.)

10. "Respiratory Excursions of the Thorax." Dr. Charles F. Hoover, Prof. of Medicine, Western Reserve University, School of Medicine, Cleveland, Ohio.

#### Intermission

11. "Mechanics of Production of Fractures and Methods of Treatment derived therefrom." (Blackboard drawings, lantern slides.) Dr. Emmett Rixford, Prof. of Surgery, Leland Stanford Junior University, School of Medicine, San Francisco, California.

12. "The Distribution and Delivery of Medical Service." Dr. Frank E. Sampson, Creston, Iowa.

13. "Tumors of the Breast." A study of 255 cases. (Lantern slides.) Dr. William D. Haggard, Prof. of Surgery, Vanderbilt University, School of Medicine, Nashville, Tenn.

#### Evening Session, 7 p. m.

14. "The Treatment of Deformities of the Upper Extremities." Dr. Arthur Steindler, Prof. Orthopedic Surgery, University of Iowa, School of Medicine, Iowa City, Iowa.

15. "Dacryocystitis—Its Cure by a Combined Intra and Extra-Nasal Operation." Dr. J. Sheldon Clark, Freeport, Illinois.

16. "Ectopic Gestation with Report of Cases." Dr. Thomas W. Nuzum, Janesville, Wisconsin.

#### Intermission

17. "The Sequelae of Some Unusual Traumata." Dr. Oliver J. Fay, Des Moines, Iowa.

18. "The Management of Maternity." Dr. William D. Chapman, Secretary Illinois State Medical Society, Silvis, Illinois.

19. "Drug Addiction and the Harrison Narcotic Law." Dr. Ernest S. Bishop, Clinical Prof. of Medicine, New York Polyclinic Medical School, New York, N. Y.

#### Second Day, Tuesday, October 31, 1922, 7 a. m.

1. Diagnostic Clinic (Nose and Throat). Preference, nose and throat cases. Dr. Greenfield Sluder, Prof. of Laryngology and Rhinology, Washington University, School of Medicine, St. Louis, Mo.

2. Diagnostic Clinic (Pediatrics). Preference, pediatric cases. Dr. John Lovett Morse, Prof. Emeritus of Pediatrics, Harvard University, School of Medicine, Boston, Mass.

3. Diagnostic Clinic (Surgical). Dr. William D. Haggard, Prof. of Surgery, Vanderbilt University, School of Medicine, Nashville, Tenn.

#### Intermission

4. Diagnostic Clinic (Medical). Preference, chest case (heart, lungs, or mediastinum) or a case of fever. Dr. Lewis A. Conner, Prof. of Medicine, Cornell University, School of Medicine, New York, N. Y.

5. Diagnostic Clinic (Surgical). Dr. John M. T. Finney, Prof. of Clinical Surgery, Johns Hopkins University, Medical Department, Baltimore, Md.

#### Afternoon Session, 1 p. m.

6. "The Development of Brain and Spinal Cord Surgery and its significance for the specialist and for

the general practitioner." Dr. Charles A. Elsberg, Prof. Clinical Surgery, University and Bellevue Hospital, Medical College, New York, N. Y.

7. "Medical Education, Past and Present." Dr. John A. Witherspoon, Prof. of Medicine, Vanderbilt University, Medical Department, Nashville, Tenn.

8. "Better End Results in operations for gastric and duodenal Ulcer." Dr. John M. T. Finney, Prof. of Clinical Surgery, Johns Hopkins University, Medical Department, Baltimore, Md.

9. "The Modern Conception of Acidosis." Dr. Julius Weingart, Des Moines, Iowa.

#### Intermission

10. (Wisconsin man.)

11. "Observations on Lobar Pneumonia." Dr. Francis G. Blake, Prof. of Medicine, Head of Department of Medicine, Yale University, School of Medicine, New Haven, Conn.

12. "Cholecystitis—A typical manifestation." Dr. August Frederic Jonas, Prof. of Surgery, University of Nebraska, School of Medicine, Cleveland, Ohio.

13. "X-ray Diagnosis in Tuberculosis, Syphilis, and Osteomyelitis of the Bones." Dr. Robert W. Lovett, Prof. of Orthopedic Surgery, Harvard University, School of Medicine, Boston, Mass.

#### Evening Session, 7 p. m.

14. "Chronic Fatigue Intoxication." Dr. Edward H. Ochsner, President-Elect Illinois State Medical Society, Chicago, Illinois.

15. Subject later. Dr. Walter L. Bierring, President Iowa Board of Health and Medical Examiners, Des Moines, Iowa.

16. (Wisconsin man.)

17. "The Control of Mandibular Pain Through the Nasal (Sphenopalatine-Meckel's) Ganglion; The Control of Earache through the Nasal (Sphenopalatine-Meckel's) Ganglion." Dr. Greenfield Sluder, Prof. of Laryngology and Rhinology, Washington University, School of Medicine, St. Louis, Mo.

#### Intermission

18. "Trifacial Neuralgia; its symptoms, diagnosis and treatment." Dr. Alfred W. Adson, Mayo Clinic, Rochester, Minnesota.

19. Subject later. Dr. Joseph A. Pettit, Prof. of Surgery, North Pacific College, Portland, Oregon.

#### Third Day, Wednesday, November 1, 1922, 7 a. m.

1. Diagnostic Clinic (Orthopedic). Preference, orthopedic cases. Dr. Robert W. Lovett, Prof. of Orthopedic Surgery, Harvard University, School of Medicine, Boston, Mass.

2. Diagnostic Clinic (Surgical). Preference, abdominal cases. Dr. John H. Gibbon, Prof. of Surgery and Clinical Surgery, Jefferson Medical College, Philadelphia, Pa.

3. Diagnostic Clinic (Medical). Preference, rheumatic and arteriosclerotic heart disease and show cases with heart failure. Dr. Francis G. Blake, Prof. of Medicine, Head of Department of Medicine, Yale University, School of Medicine, New Haven, Conn.

#### Intermission

4. Diagnostic Clinic (Surgical). Dr. Alexander



Primrose, Dean and Prof. Clinical Surgery, University of Toronto, Faculty of Medicine, Toronto, Canada.

5. Diagnostic Clinic (Surgical). Preference, goiter and abdominal cases. Dr. George W. Crile, Prof. of Surgery, Western Reserve University, School of Medicine, Cleveland, Ohio.

*Afternoon Session, 1 p. m.*

6. "Gastric and Duodenal Ulcer." Dr. John B. Deaver, Prof. of Surgery, University of Pennsylvania, School of Medicine, Philadelphia, Pa.

7. "Malignant Tumors of the Breast." Dr. Alexander Primrose, Dean and Prof. Clinical Surgery, University of Toronto, Faculty of Medicine, Toronto, Canada.

8. "The Diagnosis of Pericardial Effusion with special reference to physical signs on the Posterior Aspect of the Thorax." Dr. Lewis A. Conner, Prof. of Medicine, Cornell University, School of Medicine, New York, N. Y.

9. "The Liver, Gall-bladder and Ducts." (a) Relation of the liver to the organism as a whole. (b) Its significance in surgical operations and diagnosis. (c) Possible new role of the liver. Dr. George W. Crile, Prof. of Surgery, Western Reserve University, School of Medicine, Cleveland, Ohio.

*Intermission.*

10. "The Oedematous Cardiopath." Dr. Joseph M. Patton, Prof. of Clinical Medicine, University of Illinois, School of Medicine, Chicago, Illinois.

11. "Chronic Indigestion in Children." Dr. John Lovett Morse, Prof. Emeritus of Pediatrics, Harvard University, School of Medicine, Boston, Mass.

12. "The Technique in Certain Forms of Osteosynthesis." Dr. Einer Key, Riddaregatan 1, Stockholm, Sweden.

13. "Physiology and Abdominal Surgery." Dr. Allen B. Kanavel, Prof. of Surgery, Northwestern University, School of Medicine, Chicago, Illinois.

*Evening Session, 7 p. m.*

14. "Surgical Judgment." Dr. John H. Gibbon, Prof. of Surgery and Clinical Surgery, Jefferson Medical College, Philadelphia, Pa.

15. "Syphilis of the Nervous System." Dr. Clarence Van Epps, Des Moines, Iowa.

16. "A Report on Deep X-ray Therapy of Cancer as Practiced in Germany." Dr. Roswell L. Pettit, Ottawa, Illinois.

*Intermission.*

17. Subject later. Dr. George V. I. Brown, Milwaukee, Wisconsin.

18. "Multiplex Pathology and the Cancer Problem." Dr. William Seaman Bainbridge, New York, N. Y.

*Smoker.*

*Fourth Day, Thursday, November 2, 1922, 7 a. m.*

1. Diagnostic Clinic (Medical). Preference, gastric diseases with special reference to methods of examination. Dr. Charles F. Martin, Prof. of Medi-

cine, McGill University, Faculty of Medicine, Montreal, Canada.

2. Diagnostic Clinic (Gynecological). Preference, chronic diseases of the tubes or tubo-ovarian disease or pelvic troubles. Dr. Walter W. Chipman, Prof. of Obstetrics and Gynecology, University of McGill, Faculty of Medicine, Montreal, Canada. Dr. John G. Clark, Prof. of Gynecology, University of Pennsylvania, School of Medicine, Philadelphia, Pa.

3. Diagnostic Clinic (Medical). Preference, acute or chronic types of any form of infectious arthritis; nephritis cases. Dr. Frank Billings, Prof. of Medicine, Rush Medical College, School of Medicine, Chicago, Illinois.

*Intermission.*

4. Diagnostic Clinic (Surgical). Dr. William J. Mayo, Mayo Clinic, Rochester, Minnesota.

5. Diagnostic Clinic (Surgical). Dr. Allen B. Kanavel, Prof. of Surgery, Northwestern University, School of Medicine, Chicago, Illinois.

*Afternoon Session, 1 p. m.*

6. "Basic Factors in the Etiology and Therapeutics of Uterine Hemorrhage." Dr. John G. Clark, Prof. of Gynecology, University of Pennsylvania, School of Medicine, Philadelphia, Pa.

7. Subject later. Dr. John L. Yates, Milwaukee, Wisconsin.

8. Subject later. Dr. William J. Mayo, Mayo Clinic, Rochester, Minnesota.

9. "The Resourceful General Practitioner and Modern Medicine." Dr. Frank Billings, Prof. of Medicine, Rush Medical College, School of Medicine, Chicago, Illinois.

*Intermission.*

10. "The Inflammatory Pelvic Mass." Dr. Walter W. Chipman, Prof. of Obstetrics and Gynecology, University of McGill, Faculty of Medicine, Montreal, Canada.

11. "Some Clinical Aspects of Myocardial Disease." Dr. Charles F. Martin, Prof. of Medicine, McGill University, Faculty of Medicine, Montreal, Canada.

12. Subject later. Professor Theodor Tuffier, Paris, France.

13. Subject later. Dr. Andrew Fullerton, Belfast, Ireland.

*Banquet, 7 p. m.*

Presidents of State Societies.

Distinguished citizens of the United States.

Eminent members of the profession.

Conferring of honorary memberships.

Note: Dr. George M. Piersol, Prof. of Medicine, University of Pennsylvania, Graduate School of Medicine, Philadelphia, Pa., will deliver an address sometime during the meeting.

The Tri-State District Medical Association, which includes the territory covered by the entire states of Iowa, Illinois and Wisconsin and districts of surrounding states, extends to the medical profession a hearty invitation to be present and participate in the

program at the annual assembly, which is to be held at Peoria, Illinois, October 30th, 31st, November 1st and 2nd.

This Association is purely a scientific body. It assumes no political or legislative duties. The entire time of the assembly, outside of a few social functions, will be devoted to orations, essays, and diagnostic clinics.

A physician in order to become a member of this Association must be in good standing in the County and State Society in the territory in which he or she resides.

You are cordially invited to bring your wife, daughters or lady friend. Make your hotel reservation early (on account of the large attendance) by communicating with Dr. Sidney Eston, Secretary of General Committees, Peoria, Illinois. If you have any interesting cases for the clinics, let the Peoria doctors know.

(Signed) PROGRAM COMMITTEE:

Dr. Edward H. Ochsner, Chicago, Illinois.

Dr. George V. I. Brown, Milwaukee, Wisconsin.

Dr. Walter L. Biering, Des Moines, Iowa.

Managing Director:

Dr. William B. Peck, Freeport, Illinois.

#### THE MEDICAL SOCIETY OF THE MISSOURI VALLEY AT ST. JOSEPH

The thirty-fifth annual meeting of this association will be held in St. Joseph, under the presidency of Dr. Paul E. Gardner, on September 21-22. The Buchanan County Medical Society is preparing a series of clinics to be held at the various hospitals of St. Joseph on Tuesday and Wednesday, preceding the meeting, September 19-20. St. Joseph has a proverbial reputation for warm-hearted hospitality, and the arrangement committee, under the leadership of Dr. Floyd H. Spencer, announces that the "tang" of his city for entertainment and good fellowship will be fully sustained upon this occasion. The famous Hotel Robidoux will be headquarters, and all sessions will be held in the beautiful Crystal Room. The exhibits will be on the same floor.

One of the features of the second day will be a symposium on the "Early Recognition of Cancer" participated in by a number of men who have won national distinction in research work and clinical investigation. On Thursday evening at 7:30 o'clock, Dr. C. W. Hopkins, chief surgeon of the C. & N. W. railway, will give an illustrated lecture on "Injuries and Surgery of the Spine," and Dr. N. M. Keith, of the Mayo Clinic, will present a paper on "Hypertension in Cardio-Vascular Disease," illustrated by lantern slides. Following the evening session will be a smoker and other entertainments. Members are urged to bring their ladies, who will be entertained while the fellows are attending the sessions.

Reservations of rooms at the Robidoux should be made early to avoid disappointment. The medical pro-

fession of adjoining states cordially invited to attend the clinics whether or not they are members of the society.

The preliminary program follows:

"Causes of Duodenal Ulcer," Dr. E. P. Sloan, president Illinois State Medical Society, Bloomington, Ill.

"Toxic factors in Intestinal Obstruction," Dr. T. G. Orr, Kansas City.

"Convulsions in Children," Dr. S. Grover Burnett, Kansas City, Mo.

"The Phosphatic Index," Dr. J. Henry Dowd, Buffalo, New York.

"Some Phases of the Relation of Dental Focal Infection and Systemic Diseases," (lantern slides), Dr. Russell L. Haden, Kansas City, Mo.

"Renal Function in Prostatic Hypertrophy," Dr. Raymond L. Latchem, Sioux City, Iowa.

Dr. Leigh F. Watson, Chicago, subject to be announced.

"Myoclonic Type of Epidemic Encephalitis," Dr. Lloyd James Thompson, St. Joseph.

Dr. Lynne B. Greene, Kansas City, subject to be announced.

"Cancer: Its Early Recognition," a symposium.

(a) Address, Dr. Fred J. Taussig, St. Louis, Mo.

"How Far Can the Cancer Death Rate Be Decreased by Educating the Profession and the Laity?"

(b) "Superficial Cancers," Dr. E. H. Skinner, Kansas City, Mo.

(c) "Gastro-Intestinal Cancers," Dr. John M. Bell, St. Joseph, Mo.

(d) "Cancer of the Breast," Dr. Donald Macrea, Council Bluffs, Iowa.

(e) "Cancer of the Uterus," Dr. Palmer Findley, Omaha, Neb.

Complete program will be issued September 1; if you do not receive a copy notify the secretary, Dr. Charles Wood Fassett, Kansas City, Mo.

### Correspondence

#### THE BEST WAY TO COMBAT GOVERNMENT MEDICINE BUREAUCRACY

Adrian, Ill., Aug. 15, 1922.

*To the Editor:* I enclose copy of a communication which I received from the Internal Revenue Collector of this district, and a copy of my reply. It seems to me that someone in the Treasury Department pulled a boner, which gives an admirable opportunity to put one over by registering a vigorous protest, which may land in a politically vital spot, and still comply fully with the law.

I think that this is the best way to combat meddlesome bureaucracy. For this reason, I pre-

sent this seemingly trivial matter to your consideration.

Yours truly,

A. M. SHAW.

COPY

Mim 815.

Treasury Department

Office of Collector of Internal Revenue, 8th District  
of Illinois, G. W. Schwaner, Collector.

Springfield, Ill., Aug. 8, 1922.

Dr. A. M. Shaw,  
Adrian, Ill.

Dear Sir: Your return for registry under the Amended Narcotic Law received July 5, 1922, shows liability for tax from July 1, 1922.

Having failed to file your application for renewal on or before July 1, 1922, or as a new applicant within the month in which you commenced dealing in narcotic drugs, you incurred a penalty of 25% of the tax, or 75 cents which need not be paid now. You have the privilege of filing in this office an affidavit to show reasonable cause for delay, which will be referred to the Commissioner of Internal Revenue. If the cause shown is deemed sufficient, he will relieve you of payment of the penalty, otherwise he will assess it.

Return this letter with your affidavit for identification.

Yours truly,

....., Collector.

Mim. No. 312 revised

J. W. R.: L. G.

COPY

P. O. Address

Date

To the Commissioner of Internal Revenue:

I hereby solemnly swear (or affirm) that by delinquency in filing return of Special Tax for the period commencing....., as required by the Act of Feb. 24, 1919, was not due to any intent to violate the law or evade taxation, but was due to .....

Subscribed and sworn to before me this..... day of....., 1919.

#### INSTRUCTIONS

To be signed and sworn to before a deputy collector, notary or other officer authorized to administer oaths, and forwarded to the Collector of Internal Revenue, Springfield, Illinois.

In the blank space in the affidavit, state briefly the reason why the return or returns were not filed within the time prescribed by law.

Aug. 15, 1922.

Collector Internal Revenue,  
Springfield, Ill.

Dear Sir: Yours of 8 inst. with Mim. 312 enclosed received. I have not executed Mim 312 because for reasons hereinafter mentioned, I prefer to pay the penalty assessment stated. I did not pay my narcotic tax by July 1st because I overlooked it on June 30 and July 1st. July 2nd was Sunday. I sent the remittance Monday, July 3rd. This explanation would be satisfactory to any business firm. I hope it will be so to your department. If not, inform me, and I will forward the assessment.

However, I shall exercise the right of every citizen to seek the political undoing of any office-holder whom he believes to be unjust or unreasonable in his official actions. It is the general opinion of the medical profession that the narcotic tax is unfairly discriminatory. If it is a revenue measure, which I think it is not intended to be, it is a tax on human suffering. The government might with equal justice lay an impost on hospitals and the Red Cross. If it is a police measure (the Harrison Act, I mean), which attempts to prevent that commerce in narcotics which is harmful to the individual addict and the public, that has the approval of all honest doctors. But that is a matter of universal concern, and its enforcement should be paid from the general funds of the treasury. It would be as logical to tax bankers to pay the detective and trial expenses of bank embezzlers. As the officers of your department are appointive, our profession as a whole and as individuals can have no direct recourse. But every man who is appointed to office is sponsored and supported by some men or organization who are dependent for their political existence upon the votes of the people, without which all classes of politicians are officially not.

Within my limited field I shall endeavor to make things uncomfortable for the particular politicians who are responsible for objectionable appointments. I shall try to get my medical brethren to do the same, individually and collectively.

This is not a matter of seventy-five cents, and my action will not be influenced by the collection or remission of the same. I regard it as a petty imposition of a general policy which should be promptly and efficiently resented by the medical profession.

Yours truly,

## Society Proceedings

### COOK COUNTY

#### THE CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The first meeting of the autumn was held on Monday evening, October 3, 1921, at the Hotel Sherman.

The President, Dr. Robert Sonnenschein, presiding.

Dr. I. Pilot, (by invitation) addressed the Society on "Histopathology and Bacteriology of the Adenoid."

#### (Abstract)

The adenoids have been discussed for many years with reference to their hypertrophy and resulting obstructive symptoms and to their role as a portal of entry in tuberculosis. One phase entirely neglected has been the bacteriology. While many investigations of the bacterial flora of the nasopharynx with special reference to the carrier problem have been made, such work was carried out with cultures obtained with a swab which can at best touch the surface of the vegetations. To ob-



tain more accurate knowledge of the incidence and numbers of the more common organisms and to ascertain the extent to which these organisms flourish in the recesses of the nasopharynx, a study was undertaken by Dr. S. J. Pearlman and Dr. Pilot of the extirpated adenoids. Histological studies were made to bring out the cellular changes, if any, to the presence of the bacteria and to correlate any particular pathological condition with the character of the bacterial flora.

The excised adenoids obtained from children 5 to 16 years of age consisted of lymphoid tissue made up of several folds and frequently revealed crypt-like depressions like the tonsils. Cultures were made upon blood-agar and Loeffler's serum from the surface and from the depths of the clefts and crypts.

Every adenoid gave positive growth. The cultures from each adenoid revealed several organisms regardless of the size or structure of the vegetation, occasionally one organism predominating, rarely, however, in pure culture. The incidence of the various bacteria found is indicated in the following table:

Organism—	Number of individuals	Per cent. positive
Streptococcus hemolyticus.....	103	61
Streptococcus viridans.....	103	89
Pneumococcus.....	103	65
Type 2.....	103	2
Type 3.....	103	10.3
Type 4.....	103	52.7
Mathers coccus.....	103	17
Streptococcus.....	103	60
Gram negative cocci.....	103	79
B. influenza (Pfeiffer).....	115	40.9
B. diphtheriae.....	100	12
Diphtheroids.....	100	30
B. Mucosus capsulatus.....	103	14
B. fusiformis.....	10	20

The flora of the nasopharynx as revealed by cultures with a swab was compared to the flora of the surface and depths of the adenoids. The hemolytic streptococcus was found in 40 per cent of 25 persons in the cultures from the swabs while the excised adenoids yielded larger numbers in 60 per cent of the same individuals. The greatest incidence and numbers of bacteria occurred in the depths between the folds and in the crypts of the vegetations, lesser numbers on the surface epithelium and least upon the swabs of the adenoids *in situ*.

The excised faucial tonsils of the same individuals were similarly compared and found to be somewhat different in their flora. Hemolytic streptococci occurred in 95 per cent, B. influenza in 53.9 per cent, B. diphtheria in 12 per cent, and diphtheroids in 17 per cent. The flora of the nasopharynx was further investigated in children whose adenoids and tonsils were removed and compared to a similar group in which the adenoids and tonsils were present. In the tonsillectomized, hemolytic streptococci occurred 40 per cent, B. influenza in 26.5 per cent, pneumococci in 32.5 per cent. In

the non-tonsillectomized, hemolytic streptococci were found in 56.3 per cent, B. influenza in 39.3 per cent, and pneumococci in 32.5 per cent. The number of all of these bacteria was decidedly fewer in the tonsillectomized children.

Histological sections were made from the adenoids which had been studied bacteriologically. No striking pathological changes could be ascribed to any flora or organism. The adenoids with deeper folds and many crypts, particularly those containing amorphous and cellular debris, as a rule, harbored large numbers of bacteria, especially hemolytic streptococci. For the most part histologically the specimens were uniform in their appearance regardless of the character of the flora. Every adenoid presented evidences of chronic inflammatory changes no greater in degree than the changes that are constantly present in the lymphoid tissues in close proximity to the mucous membranes of the normal individual. In none were found acute cellular reactions to the presence of the organisms that lie in close contact with the vegetations.

From these studies it is well to recognize that the nasopharyngeal vegetations should be regarded not only as hyperplastic obstructive masses but also as foci like the tonsils where dangerous bacteria are lodged. This conception is to be borne in mind in connection with the treatment of diphtheria carriers where the removal of the adenoids as well as the tonsils frequently terminates the carrier state. In the treatment of the metastatic infections such as endocarditis and arthritis, the adenoids should be regarded as possible foci of infection. Although probably not as important in this respect as the faucial tonsils, the adenoids are to be looked upon as a portal of entry of many acute and chronic diseases.

Dr. Samuel Salinger read a paper entitled "Acute Lacunar Adenoiditis."

#### (Abstract)

This is an acute infection of the adenoid mass due generally to the streptococcus, characterized by swelling of the adenoid and a muco-purulent exudate which fills the crypts and appears on the surface as a thick yellowish tenacious secretion. The symptoms are fever, pains in the ears and throat, impaired nasal respiration, thick speech, a muco-purulent discharge and enlargement of the post-cervical lymph glands. It occurs frequently in association with acute lacunar tonsillitis and is frequently overlooked. The author cited two cases in young adults where the disease occurred alone, in one case the tonsils being absent, and in the other very small and atrophic.

The complications which may ensue are infections of the ear, retropharyngeal abscess and diseases of the lower respiratory tract.

As a rule, the disease is self-limited and yields to simple cleansing and local antiseptics. It is important that these cases be diagnosed so that after the acute attack has cleared up, the mass may be

removed to prevent recurrences and damage to the hearing apparatus. The author directed attention to the method of diagnosing adenoids by anterior rhinoscopy where posterior rhinoscopy is not practical and recommended this method as being more agreeable to the patient and easier for the occasional examiner to master.

#### Summary

1. Adenoids in appreciable masses are of frequent occurrence in adults.

2. Acute lacunar adenoiditis should be thought of in cases of earaches with fever where the ears are normal, regardless of whether the tonsils are absent or present, inflamed or not.

3. Diagnosis of adenoids should always be attempted by anterior rhinoscopy in preference to palpation in cases where posterior rhinoscopy cannot be carried out.

#### DISCUSSION

Dr. D. J. Davis said that two parts of the gastro-intestinal canal are of interest in connection with infections. Passing downward from the mouth to the rectum, if one makes cultures at frequent intervals, one will find two regions with maximum numbers of bacteria. There will be relatively a small number of bacteria at the lips and passing down they will increase very greatly, so that there will be found a maximum in the nasopharynx. In the region of the esophagus they decrease rapidly and in the stomach there are relatively few bacteria. On passing down into the gastrointestinal canal the numbers gradually rise, another maximum being attained in the region of the ileocecal valve and upper colon. From here the number of bacteria again diminish toward the rectum. This is also true as regards the incidence of pathogenic organisms and infections. Infections are very common in the nasopharynx region, then they are relatively uncommon until the lower part of the small bowel and especially the region of the appendix is reached, where again many infections appear.

We may parallel this incidence of bacteria and infections if we consider the amount of lymphatic tissue along the gastro-intestinal canal, the maximum appearing in the pharyngeal region, then diminishing in the esophagus and stomach and again gradually increasing in the intestines in the region of the ileocecal valve. Dr. Davis thought the body had developed this lymphatic mechanism in order to protect itself against the bacteria which live in these localities. The lymphatic mechanism presumably is a defensive one.

On the other hand, while the body has developed this lymphatic mechanism to protect itself, the bacteria are equally adaptive and have altered themselves in such a way as to attack the very mechanism the body has developed. Streptococci apparently by preference frequently attack lymphatic tissues in the throat. The typhoid bacillus in the bowel evidently does the same.

Dr. Davis called attention to a peculiarity of the lymphatic tissue in the submucosa of the gastrointestinal canal. It has efferent channels but no afferent channels. It is located just beneath the mucosa where it can readily absorb material and there is no need of afferent channels. There seems to be no question about the function of these lymphatics. Bacteria can practically always be found in the centers of these glands in the normal state. A few bacteria no doubt occasionally get through into the deeper lymphatics and thence into the circulation where they usually die, but at times may cause infection.

The speaker considered the carrier question of importance in connection with the data presented by Dr. Pilot. The adenoids are of great importance in this regard and one should always think of this location as a place where certain dangerous bacteria may reside for long periods of time.

As this study has progressed, they have come to realize that many parts of the body have developed their own flora. And as they investigate this point more in detail, they find that even very limited localities have their own individual bacteria.

The bacteriology of the surface of the tonsils and of the crypts is very different and the bacteriology of the adenoid may be quite different from that of the tonsil, or the pharynx or the larynx.

Dr. Davis felt that much work is still to be done. Studies of this sort have just begun. Little is known of the anaerobic flora of the respiratory tract and especially of the tonsils. He cited the fact that it was not known until very recently that the influenza bacillus is one of the very common organisms of the respiratory passages, present often in individuals normally as well as in those suffering with various kinds of infections. It was largely because of the lack of knowledge of its distribution that it was so long thought to be the cause of influenza epidemics.

Because of the fact that new methods are being devised constantly, it is necessary to revise bacteriological data frequently. This necessitates more or less constant reinvestigation. However, this work of Dr. Pilot's on the adenoid appears to be the first systematic study of the bacteriology of the organ ever made.

Dr. George W. Boot was impressed with the large percentage of patients who had tonsils and adenoids removed and still gave cultures of the same organisms as when the tonsils and adenoids were present. This doubtless explains why in so many cases when the tonsils and adenoids are removed there still remains an enlargement of the lymphoid islands in the pharynx, which sometimes becomes very annoying.

Dr. Salinger called attention to the fact that his patient had enlargement of the post-cervical glands. Dr. Boot thought this rather peculiar, as his idea of the lymphatic glands was that the adenoids drained into the same set of glands as the tonsil. He asked if anyone else had noticed the drainage into the post-cervical glands.

Dr. John Edwin Rhodes said that this field of investigation was not available when he was a student and he considered the Society very fortunate in having such a paper as Dr. Pilot's presented, showing the painstaking work of the essayist in connection with the study. He felt that the profession should avail themselves of all such things in an effort to trace down the bacteriology of disease and with the laboratory facilities of this time that is possible for every practitioner.

Dr. J. Holinger stated that Dr. Pilot and Dr. Salinger found virulent diphtheria bacilli and virulent hemolytic streptococci in the folds of the adenoids of a large per cent. of the children, while the children were not sick at all. He was surprised that not even an explanation of this fact was attempted.

Dr. Harry W. Woodruff (Joliet) was interested in the point made in the examination of adenoids in children. He had always felt that using the finger in the examination for adenoids was almost as severe and difficult as removal of the adenoids, and he had used the method suggested by Dr. Salinger for several years.

Dr. Alfred Lewy thought that very few realized the amount of intelligent industry necessary to get together the mass of data presented by Dr. Pilot, and expressed great interest in Dr. Davis' analysis of the work. He asked Dr. Davis whether it would not be as well to say that the infection was more frequently manifested where the lymphatic tissue is most abundant, and whether or not recent investigations had thrown any light on the cause of such apparent localization.

Regarding Dr. Salinger's paper, referring particularly to acute infections of the naso-pharynx, he thought it was rarely necessary to subject the patient during such acute conditions to attempts at posterior rhinoscopy. He believed nearly every case of tonsillitis was associated with nasopharyngitis, either location being primarily inflamed. Ordinary sore throats are commonly nasopharyngitis, as indicated by the inflammation along the salpingo-pharyngeal folds. In his opinion chronic naso-pharyngitis is the most common inflammation found in the upper respiratory tract.

Major Sherman, M. C., U. S. A. (Camp Sam Houston, Texas), said that during the last year he had been impressed with the large number of adenoids found in men in the Army. There are now more boys of eighteen and nineteen than before the war, and the number of adenoid cases is large. He had found some form of naso-pharyngoscopy which allowed

a full view of the adenoid mass and had found no difficulty in using this even in very young children. By this method it was not difficult to find exactly where the masses were. In his opinion, the reason there was recurrence was because all of the mass was not removed. It was interesting to see how many times when an adenoid was removed a small, walled-off abscess was found within the mass.

Dr. A. A. Hayden emphasized what Major Sherman said concerning the use of the naso-pharyngoscope in looking for adenoid masses, either after or before the operation. This could be done almost without pain and an excellent view of the entire region could always be obtained. He felt that everyone used the finger very frequently because it was a convenient thing to do, but this was open to the very valid objection of alienating the affections of one's patients.

Dr. Thomas Faith said that when Dr. Salinger spoke of disseminating this knowledge to the practitioners in general he felt one point might be added; namely, that these acute adenoid attacks explain many of the febrile attacks very young children often have. While this is recognized by laryngologists it is very frequently not recognized by practitioners in general. He believed that many of the so-called attacks of gastrointestinal disturbance in children could be explained as attacks of adenoiditis.

Dr. Harry Pollock was surprised that Dr. Pilot had not mentioned finding any tuberculosis in the 115 cases examined. This condition was quite common, especially in the presence of enlarged glands.

In examining school children, Dr. Pollock had found as high as 15 to 25 per cent. of the cultures sent to the Health Department showed diphtheria carriers but the children were perfectly healthy. At that time they were not doing the Schick test and he wished to know whether the children in whom the diphtheria bacillus was found gave a positive reaction to the Schick test. Recently there had been quite an epidemic of Vincent's angina. Dr. Pilot mentioned finding the fusiform bacillus and Dr. Pollock was surprised that he had not mentioned finding the spirillum in the tonsils and adenoids.

He felt that the best way to locate large adenoids in adults was by means of the pharyngoscope, but children who had their tonsils and adenoids removed will not hold still and permit this, so it is usually necessary to make a digital examination. In adults in a few cases where adenoids were suspected, where the tonsils and adenoids had been removed but patients complained of discharge of mucus, one must think of Thornwaldt's disease, which could be mistaken for adenoiditis. Their experience was that the posterior cervical glands would usually enlarge from the adenoids. In his opinion the adenoids drain through the posterior cervical glands and the tonsils through the anterior.

Dr. E. P. Norcross said that he saw many children with acute conditions where the site of the trouble was in the postnasal space. In many of these cases the tonsils were not inflamed, the only evidence of a throat infection being a red pharynx and postnasal discharge. He believes that the adenoid is very often the site of acute inflammation in children.

Dr. I. Pilot (closing the discussion of his paper) said that the incidence of the organisms in tonsillectomized patients was frequent, but one should remember that there was considerable adenoid tissue still present in the naso-pharynx, all of which was pitted and these follicles continued to harbor various bacteria in children who have had their tonsils and adenoids removed.

Regarding the question of diphtheria carriers, the number of positive cultures obtained was 12 per cent. of 100 children, and it was indicated that of the 12 strains only two proved to be virulent. In an extensive study made at Johns Hopkins hospital by Guthrie, Gelien and Moss similar results were obtained, in which positive results were present in anywhere from 10 to 18 per cent. of children. There, too, the strains were tested for virulence and only about 11 per cent. were found to be virulent, so the actual number of diphtheria carriers could be narrowed down to those carrying virulent diphtheria bacilli. Their data seemed to indicate that the carriers of avirulent bacilli were harmless and should not be

treated as dangerous unless the cultures were tested for virulence.

Organisms of the *Streptococcus hemolyticus* group, *B. influenzae* and others that were quite virulent, could exist in the nasopharynx without causing any symptoms on the part of the person, depending upon the resistance of the individual and also upon the invasive properties of the organisms. The organism might be virulent but its power of invading the body was another property which must be considered in determining the actual danger of the organism. The more invasive type of *Streptococcus hemolyticus* due to infected milk from sore throat are organisms which are a little different in their reactions and have chiefly this invasive property. An individual infected by this particular strain is dangerous to another individual, while an individual carrying the ordinary *Streptococcus hemolyticus*, which does not have this particular invasive property, is not dangerous.

Dr. Pilot had made no attempt to present any complete histopathology or bacteriology. The demonstration of evidence of either active or latent tuberculosis with strains of tubercle bacillus in the tissues constitutes a big problem in itself. Each of the organisms was studied and considered as a separate problem and no reference to the tubercle bacillus and other organisms was made because the bacteriologic study is not yet complete. The fusiform bacilli encountered were those found in anaerobic cultures of 10 specimens. The spirillum was encountered in connection with the fusiform bacillus, but nowhere as frequent as in the tonsil. The adenoids are not as favorable for the formation of masses of fusiform bacilli and spirilla.

Dr. Samuel Salinger (closing the discussion on his paper) stated that the scope of his paper did not include the catarrhal form of nasopharyngitis which is associated with common colds in children. He wished to call attention only to the particular form of acute lacunar adenoiditis, and did not expect to touch upon the other types of adenoid infection which is a large field and which would include Thornwaldt's disease, the latter having no connection whatever with the acute type he considered.

As to the use of the naso-pharyngoscope, if one is called to attend an acute condition in a patient's home he is not likely to have the pharyngoscope with him. Secondly, in the presence of a large mass of muco-purulent material there is much difficulty in getting a good view. With the naso-pharyngoscope one can get an excellent view of a limited area but not a general ensemble, and while the naso-pharyngoscope has its place in some conditions, Dr. Salinger thought it was better if one could see the condition as it exists without the aid of mirrors or magnifying glasses, and in its relationship to the surrounding structures.

In regard to the enlargement of the posterior cervical glands, he found this was very frequently mentioned in connection with inflammation of the adenoid. Many authorities consider this finding to be particularly pathognomonic of infections in the nasopharynx.

Dr. Robert Sonnenschein asked Dr. Davis if he did not think Dr. Salinger was correct in using the term "lacunar" instead of "follicular." Would not the same nomenclature be applied to the adenoid as to the tonsil? The actual "follicles" of the tonsil are lymphoid masses lying beneath the mucosa. Ordinarily when the term "follicular tonsillitis" is employed, it refers to infection of the crypts or lacunae of the tonsil, hence the expression "follicular" is really a misnomer in these instances.

Dr. D. J. Davis, replying to questions, thought the point of Dr. Sonnenschein was well taken. The follicles as they are seen in the sections often show necrotic tissue and various inflammatory cells and seem to be the part of the organ which exhibits the greatest degree of change.

Regarding the manifestation of disease, brought out by Dr. Lewy, the speaker thought one should consider "disease" as a relative term. Bacteria are constantly passing into our interior and we are constantly absorbing toxins, particularly throughout the gastrointestinal canal. In saying that many infections appear in the region of the ileocecal valve and in



the region of the oropharynx he meant that the chief manifestations of disease appear in these two localities.

With reference to the diphtheria carriers, Dr. Davis believed the extirpation of the palatine tonsils would diminish the number of bacteria carriers but did not think it would do more than that.

## CHICAGO OPHTHALMOLOGICAL SOCIETY

November 21, 1931

Dr. Ephraim K. Findlay, President

### OPERATION FOR DRAWN UP PUPIL

Dr. William A. Fisher. The result of lowering of the pupil by the Smith method. After a capsulotomy operation, the pupil was drawn up into the scar tissue which prevented the patient from seeing. There was no reaction following this operation.

### LEONTIASIS OSSEI

Dr. George F. Suker presented two men, in the sixties, typical changes of leontiasis in the cranial bones, involving the orbit (photographs and x-ray plates shown) and implicating the optic nerves, producing a choked disc with the secondary atrophy in three eyes. In both cases a divergent strabismus resulted from the encroachment in the orbit by spongy bone along the inner walls, characteristic of leontiasis. In addition there was a pronounced ptosis of the two eyes. Upon a radical removal of this spongy bone, the eyeballs receded, the divergence practically disappeared and so also the choked disc, but necessarily not the atrophy. Roentgenograms of other parts of the skeleton showed but a moderate leontiasis of one tibia and fibula in each patient. One patient was still living, the other died because of the excessive process involving the sphenoid in the region of the sella.

### PATENT HYALOID ARTERY

Dr. Suker presented a patient in whose left eye was such a vessel with fimbriated terminal convolutions, accompanied by minute hemorrhages into the vitreous on various occasions. Vision in the eye was normal when no hemorrhages were present. These occurred after violent or strenuous physical exertion. Blood pressure was normal; no tuberculosis; no syphilis present. Patient, a dentist, 38 years of age.

### A MIGRAINE PATIENT, SEROUS MENINGITIS

Dr. Suker stated this patient had a serous meningitis (Quincke's type) 14 months ago accompanied by a marked bilateral choked disc. Vision in each eye now with low myopic astigmatic correction 20/16. Fields for form and color concentrically contracted. At present he showed moderate secondary optic atrophy in each eye. He had a return of the serous meningitis with the reappearance of the choked discs, and after convalescence vision again was normal and fields the same as after the first attack. Being a migraine patient, with marked gastric disturbance, and these choked discs, it was thought by several, who had not recognized the Quincke's type of serous meningitis, that he had a brain tumor. No focal brain tumor symptoms could

be elicited, but the classic characteristics of a Quincke's meningitis were very pronounced. The patient was an ex-soldier of exemplary habits, no lues, but had arrested pulmonary tuberculosis.

### PTERYGIUM SURGERY

Dr. Michael Goldenburg read a paper on this subject, which will be published in full in this Journal.

Discussion. Dr. Clark W. Hawley said that for something like thirty years he had seen a good many of these cases operated on by what was called the McReynolds method. This was a misnomer. McReynolds simply made the operation popular. It was an old French operation. He had never seen an extensive case of pterygium that was treated by that operation where the cosmetic effect was good, for the reason that one left a large corneal scar and nature would cover this rapidly by an extension of the epithelial layer of the conjunctiva over the scar. If one took a pterygium where it extended to the center of the cornea and desired an absolutely clear cornea, it was necessary to do transplantation with Thiersch grafts, the object being to get some bridge between the pterygium and the scar on the cornea. The graft should be the thinnest possible piece of skin which might come from the mastoid if free from hair.

Dr. Goldenburg, in closing, said he was not familiar with the procedure described by Dr. Hawley. It had not been his good fortune to do any kind of surgery on the cornea where he destroyed Bowman's membrane or the cornea proper without leaving scar tissue.

The procedure he had presented was very simple. Its only advantage over the McReynolds operation was that it removed the foreign body in the lower culdesac, brought it outside, and the eye showed hardly any reaction. After six months or a year one could hardly tell where the eye had been operated on.

### CATARACT OPERATION PERFORMED BY COLONEL SMITH

Dr. Ephraim K. Findlay stated that on the 28th of May, 1921, Lieut.-Col. Smith of Amritsar, India, operated at the Illinois Charitable Eye and Ear Infirmary on 13 cases of senile cataract, performing bilateral operations on 2 cases, making in all 15 cataract extractions. The average age of the patients was 62½ years, the oldest being 81, and the youngest 43 years. All cases had good light perception and projection with clean laboratory records, except a few isolated colonies of staphylococci from the conjunctival sac of 3 of the patients.

The preparation and after-treatment followed as closely as possible the directions given by Colonel Smith. The intracapsular extraction was performed in all cases except one, where the capsule ruptured before delivery. In one case only was there loss of vitreous at the time of extraction, and that in an uncontrollable patient who squeezed violently during the operation.

Four of the cases resulted in total failures from the following causes:

Case 1 had a vomiting spell after a fit of coughing the day after operation, with choroidal hemorrhage and expulsion of the vitreous and total loss of sight.

Case 2. Patient squeezed during the operation. Vitreous was lost and a severe iridocyclitis followed, with iris drawn up and the pupil occluded, so that vision was reduced to shadows.

Case 3. Patient tore the bandages off the third day and in the after-treatment was difficult to control. A severe iridocyclitis followed, resulting in blindness.

Case 4. Patient had iridocyclitis, pupil was drawn up to the wound. Fine floating bodies were found in the vitreous and vision was reduced to 20/150 which no lens would improve.

The other cases after refraction gave the following visual results: One 20/20; four 20/25; one 20/40; three 20/50; two 20/65.

In percentage this would read:

Good results 20/30 or better.....	33.3%
Fair results 20/40 to 20/50.....	26.6%
Vision of 20/65 .....	13.3%
Failure .....	26.6%

Eliminating the first four cases in the remaining 11, 6 of them had iridocyclitis of varying degrees of

the lens was removed in the capsule there was less danger of iridocyclitis had not been proven in these cases, as 54.5 per cent of iridocyclitis was a large percentage. Although these operations were performed by a skilled master in the technic of intracapsular extractions, the results had not proven as satisfactory as the older methods of operations.

Dr. W. A. Fisher stated that on May 26, 1921, at the Chicago Eye and Ear Hospital, Col. Smith performed 16 intracapsular cataract operations on 15 patients, one of them having both eyes operated upon. The oldest patient was 85, youngest 47, and the average age 65. The longest time in the hospital was 25 days, shortest time 10 days, and the average time 14½ days.

The visual results of 16 cataract operations performed by any method would not be considered a sufficient number to recommend or condemn the method. Smith was fortunate in some respects and unfortunate in others. Fortunate in having only one case with poor vision due to fundus lesion. Unfortunate in having a case of hemorrhage of the choroid, especially when it occurred only once in about 250 operations.

The visual results reported were from records received from the doctors who referred the cases and were made about six weeks after the operations.

In figuring the above averages, Cases 15 and 16 were purposely omitted.

	Age.	Vision.	In Hospital.	Complications.
1. O. S. J.....	56	R. E. 20/10	15 days	None.
2. L. A.....	78	L. E. 20/15	19 days	None.
3. J. C. Y.....	78	L. E. 20/15	19 days	None.
4. D. H. M.....	64	R. E. 20/20	17 days	None.
5. E. E. C.....	51	R. E. 20/20	11 days	None.
6. A. S.....	63	L. E. 20/20	25 days	Vitreous loss; iris prolapse.
7. Dr. E. M.....	56	L. E. 20/20	12 days	None.
8. J. W.....	47	L. E. 20/20	16 days	None.
9. W. T. H.....	65	L. E. 20/20	13 days	None.
10. L. A.....	78	R. E. 20/25	19 days	None.
11. Mrs. M. W.....	85	R. E. 20/30	17 days	None.
12. Mrs. O.....	69	L. E. 20/40	14 days	Vitreous loss; iris prolapse.
13. M. B. N.....	58	L. E. 20/50	10 days	Ruptured and retained capsule; iritis;
14. N. S.....	80	L. E. 20/60	14 days	drawn up pupil; lowered, leaving clear fundus, macular degeneration.
15. E. J. P.....	71	R. E. 0	10 days	Hemorrhage of choroid on table.
16. H. E. B.....	45	R. E. 0	3 days	Temporary insanity; iridocyclitis and occluded pupil. May make artificial pupil.

severity, with incarceration of the pillars of the iris in the wound, making a percentage of 54.5. The length of time in the hospital after the operation varied greatly, and some of the cases were retained for an operation on the second eye. Some were retained long enough so that satisfactory refraction could be made and the reports completed, as many of the patients when dismissed never returned. The average convalescing period from the other methods of operation was certainly not lessened.

In summing up as far as possible from such a limited number of cases, no definite conclusions could be drawn. The results did not show an improvement in visual result from capsular operations. The inflammatory reaction was as great, if not greater, as there was more trauma.

The cosmetic result from such a large iridectomy was far from satisfactory. The claim that when

## DISCUSSION

Dr. Thomas Faith said as there was such a wide discrepancy between the report of Dr. Fisher and the report of Dr. Findlay, it seemed hardly fair to the operator or to the operation to go any further without investigating the histories and records of these cases.

Dr. William L. Noble. In considering the 15 intracapsular cataract operations recently performed by Dr. Smith, of India, at the Illinois Charitable Eye and Ear Infirmary, there were some things quite definitely established. First, the trauma produced on the eye was far in excess of that produced by the well established procedure for the removal of cataract as practiced on the continent in England and America. This trauma was responsible for the large amount of iridocyclitis which followed this group of operations. Second, there was much more danger of loss of vitreous in the Smith extraction than there was in the regular standard extraction for cataract. Third, the removal of the support of the vitreous of the posterior capsule introduced another element of danger which was not present in the regular standard extraction for cataract.

An honest ophthalmic surgeon would not allow his patients to take a single chance that they did not have to take when

operating for the removal of cataract. He was convinced that no man could do this operation on a patient without subjecting the patient to a very increased danger of an unfavorable result.

It must be remembered that this group of cases at the Eye and Ear Infirmary were selected and approved by Smith for operation. The whole group of cases was therefore much freer from those complications which would be found in the average of patients applying at that institution for the removal of cataracts.

Dr. William H. Wilder stated: We knew that iritis and iridocyclitis frequently followed cataract extraction in the hands of any operator, however, skillfully performed. The degree of iridocyclitis varied in different cases. Those who had had much experience in cataract work would agree that there might come a period about the sixth or seventh day after the operation when the eye that seemed to have been healing normally without much sign of reaction, suddenly flared up and exhibited signs of iridocyclitis, the cause of which was not always determinable. In such cases, many operators, following the suggestions of Gifford, gave with great advantage to the patient, salicylic acid in some form. It would be manifestly unfair in such cases to charge this against the method the operator had used, unless it was clear that some infection had been introduced or the eye had suffered from unnecessary traumatism.

Probably more trauma to the eye was caused by the intracapsular method and especially so in the hands of one who had not had the opportunity of acquiring the skill necessary to do the operation, such as Dr. Smith had, and consequently there would be more injury to the eye, more accidents, such as vitreous loss and more iridocyclitis. We ought to get as large statistics as we could to throw light on these phases of the subject. Vision did not appeal to him so much in settling the value of the method, because from the very nature of the case it might not be possible to get perfect vision. The tests of the eye before the operation might have shown excellent perception and projection and yet after removal of the cataract, the ophthalmoscope might reveal a condition of the fundus, such as posterior choroiditis or a hazy vitreous that would preclude good vision even if the operation had been perfect in every respect. One need not necessarily pride himself because after cataract extraction his patient got 20/15; the operation might have been more shabby and the risks greater than in another one in which the vision was only 20/100.

Dr. George F. Suker. He had performed the Smith-Indian extraction on private and clinical cases. He had had a number of cases at the Cook County Hospital in which he had assisted his interns to do the operation. There was no doubt at all, but that in doing the Smith-Indian extraction the beginner did undue damage and inflicted trauma to the eye. He used altogether too much pressure. One need not exert any more pressure in delivering the lens than in doing capsulotomy. Exercise of proper delivery pressure was just as essential as good assistants. The direction of the pressure exerted was also absolutely an important factor. Considerable traumatism was caused by the strabismus hook riding too hard and long on the limbus in the region of the ciliary body. The line of pressure should be directed to the entrance of the optic nerve and stay well within the limbus—a rocking pressure, and then the iris was not unduly stretched or crowded back upon the ciliary body and processes. A properly placed iridectomy, not too large, nor too small was an essential requisite.

Looking back upon his experience with cataract extraction of the Smith-Indian type and capsulotomy method, he had not come to a definite conclusion as to which method he would prefer in all cases.

In all patients in whom there was a marked arteriosclerotic condition of the peripheral vessels, he was not in favor of the Smith-Indian extraction. As far as the loss of vitreous was concerned, a limited loss did not signify much complication or reduction in vision, if any. So far as visual acuity was concerned, 20/20 was not the final criterion. For, usually, one did not know what the patient's visual acuity was prior to the cataract. It might not have been 20/20. Nor did we in every instance know the anatomic condition of the macular area,

disc, choroid or retina; also there might be a high refraction error present, associated with amblyopia exanopsia and thus 20/20 could not be attained no matter what method of operation was chosen.

The great objection he had to the Smith-Indian extraction was not the technic or the results obtained, but rather the unsightly pupil. In the majority of cases there was a retracted pupil. Why it occurred, he did not know.

Dr. George F. Fiske said there were things which struck him as remarkable in these reports, the first one of which was the fact of the very fine visual results. The other was the high percentage of loss of vision. It seemed to him unfortunate that there should be a loss of 20 per cent in 30 cases.

Dr. Harry W. Woodruff, of Joliet, Illinois, stated that last Thursday he attended a meeting of the Kansas City Eye, Ear, Nose and Throat Club. A report was read of the cataract operations performed by Col. Smith. He could not give this report in detail, but he remembered that there was a 25 per cent loss of vitreous.

Dr. Fisher and Dr. Findlay replied to the remarks made in discussion.

Robert Von Der Heydt, Cor. Sec.

## CHICAGO OPHTHALMOLOGICAL SOCIETY

December 12, 1921

Dr. E. K. Findlay, President

### KERATOSIS AT THE LIMBUS

Dr. Robert Von Der Heydt: Mr. A. P. J., aged 62, farmer; left eye; first seen in March, 1921. The patient stated that the new growth had existed for six months. On inspection a triangular zone at the external limbus presented the appearance of xerosis. On examination with the corneal microscope, it was seen to consist of a hyperemic zone surrounding a pale white flat triangular area. This latter was composed of smooth glistening round elevations. Many of these presented in their centers a deep seated whorl of blood vessels. On account of the possibility of this new growth being an epithelioma he showed it to Dr. Oliver Ormsby who without hesitation pronounced it a keratosis (leucoplakia). He stated, however, that this was the first instance where he had seen a change of this nature at this location.

On examination of the literature he found that neither Graefe-Saemisch nor Parsons had described this condition. In the new literature of the past ten years he found two exactly similar cases described, one by Boronici in the *Annali di Oftalmologia*, 1910, in a two-year old boy, the other by Kamoto in the *Klin. Monatsbl. f. Augenheilk.*, 1909. The latter was in a man, 33 years old. It was examined microscopically and the diagnosis of keratosis verified.

In the case shown tonight there had been but a slight increase in size in the nine months during which time he had had it under observation.

### MEDULLATED NERVE FIBERS

Dr. George F. Suker presented a case showing medullated nerve fibers in the right eye, so extensive that nine-tenths of the nerve head was involved. The massive leashes of medullated fibers extended well into the periphery of the fundus above and below. The vision was 20/40 and could not be improved with lenses. The blind spot was enlarged downward. The form and color fields



were normal. The left eye was negative and vision normal.

#### COMPENSATION FOR OCULAR INJURIES

Discussion on this subject was introduced by Dr. Frank Allport who was followed by Dr. H. W. Woodruff. Dr. Nelson M. Black of Milwaukee called attention to the preliminary report of the Committee of the Section on Ophthalmology of the A. M. A., which was taken up and discussed by Drs. Black, Brawley, Blue, Gradle, Brown, Wilder, Beck, and Allport. Dr. Von der Heydt, Cor. Sec.

#### CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The regular monthly meeting of the Chicago Laryngological and Otolological Society was held at the Hotel Sherman on December 5, 1921, at 8:00 p. m.

The President, Dr. Robert Sonnenschein, presiding.

#### DEMONSTRATION OF CASES AND INSTRUMENTS:

Dr. Alfred Lewy showed a patient who had first been seen by him in the latter part of September, 1920. He had complained for two months of discomfort, rather than actual pain, at the right side of the root of the tongue, had lost some weight and did not feel quite as well as usual. Inspection showed three raspberry-like prominences, with an irregular fissure, situated at the right side and dorsum of the tongue, adjacent to the right tonsil, and some infiltration of the right posterior pillar. Examination for tuberculosis and syphilis being negative he proceeded on October 9th to coagulate the entire area, using the D'Arsonval current, about 1200 m. a. The slough was separated in about two weeks, the patient suffering more or less pain in the meantime. Histological section of tissue made at the time of operation was exhibited and showed the epithelium invading the underlying tissue at one point.

Several weeks after the operation the gland bearing tissue of the right side of the neck was removed. Examination of this glandular tissue revealed no regional extension of the epithelioma. The patient was subsequently x-rayed. Following this the operated region in the side of the neck became hard and swollen, but this had since subsided to a slight infiltration.

*(To be continued)*

#### JACKSON COUNTY

The Jackson County Medical Society held its regular quarterly meeting at Murphysboro, July 27, at 8 p. m.

The purpose of the meeting was to obtain the attitude of the various candidates toward the medical profession; and to discuss legislative questions of medical interest.

Dr. Ormsby, chairman of the Legislative Committee, reported that from all letters to candidates, national and state representatives and county school superintendent, only one response was received. That

was from H. N. Cupp, a candidate for county school superintendent, who expressed himself as being glad to co-operate with the county society in public health matters in the schools.

Dr. Ormsby said of the present Medical Practice Act that it is an act prohibiting regular physicians and no one else. He states that the slow response to letters to our representatives shows how little influence the medical profession has had and advises active lobby at our state capitol.

Dr. Horstman spoke of the unfairness of our Medical Practice Act allowing inequality in educational standards of different cults.

In response to a letter from the State Department of Health the following resolution was adopted:

Resolved, That the Jackson County Medical Society co-operate with the State Department of Public Health in every way possible in reporting communicable diseases, births, stillbirths and deaths.

M. E. ROLENS, M. D., Secretary.

#### MACOUPIN COUNTY

The Macoupin County Medical Society met in the Hillside Country Club house at Carlinville, Illinois, and was called to order by President M. Herschleder of Mt. Olive.

Fifty-six members and visitors were present:

An elaborate dinner was served.

In commemoration of the tenth anniversary of his assuming the office of secretary of the society the censors had ordered a caduceus which was presented to Dr. T. D. Doan, of Scottville, at the close of the noonday banquet by Past President Dr. G. E. Hill, of Girard, in the following pleasing address: "Mr. President, Ladies and Members of Macoupin County Medical Society: During the early existence of this society we held our meetings semi-annually. It has only been in the last few years we have been meeting bi-monthly. This society has grown not only numerically, but has had a remarkable growth in interest. Its membership now includes almost every physician in the county.

The officers of this society are elected annually. However, the office of secretary-treasurer has been filled by the same individual for ten years, and we, as members, appreciate the fact that, as a secretary is, perhaps, the most important officer, the fellow that puts the life into the society, it stands that he should be a live, active, energetic man.

Macoupin County Medical Society feels that it has just such a man, and today in commemoration of our present secretary, his ten years of active service, his untiring and ever faithful efforts to build a medical society worthy of the name, and I think that today Macoupin County Medical Society stands among the foremost down-State societies, we, as members wish to give credit where credit belongs, and as evidence of appreciation this society wishes to present to you, Doctor Doan, this emblem as a token of gratitude and appreciation for your faithfulness and your untiring energy in making Macoupin County Medical Society

what it is today. Doctor Doan will you please accept this little token as a gift from your friends?"

To which the secretary replied in his characteristic manner.

The application for membership of Dr. Charles G. Stegmayer, of Benld, and Dr. Leon Kelso, of Carlinville, were reported favorably by the committee of censors and on motion they were elected to membership in the society.

Moved and seconded that Dr. C. D. King, of Gillespie, be elected to honorary membership in the society: Carried.

Moved and seconded that Macoupin County Medical Society co-operate in every way with the State Department of Public Health in reporting communicable diseases, births, still births and deaths and that the members urge other physicians to do the same: Carried, unanimously.

The following proposed amendment to the Constitution was read and on motion was accepted and laid over until the next regular meeting.

"(a) The members of the Board of Censors shall not be relieved of their duty in relation to applications for membership on account of temporary absence.

"(b) The Board of Censors shall present the name and address of applicant to the secretary for publication in The Bulletin previous to his election to membership."

Dr. J. Curtis Lyter, of St. Louis, gave an excellent interesting address on "The Pathological Physiology of Heart Failure," which he very pleasingly illustrated with blackboard drawings. The subject so comprehensively given was taken up and discussed by the members and visitors present.

The ladies present were given an automobile ride through the city and surroundings.

The meeting was one of the most pleasing and profitable in the history of the society.

DR. T. D. DOAN, Secretary.

### RANDOLPH COUNTY

The Randolph County Medical Society met at Steeleville, Illinois, the home of Drs. Thomas Robertson and Alfred C. Wiesbusch, who acted as host. The Steeleville City Park was decorated for the occasion; tables, benches and liquid refreshments, such as can be obtained in these stringent times, were provided.

The Doctors brought their wives and ladies and baskets of lunch with them.

At 12:30 p. m. a delicious dinner was served by the ladies. After dinner the host produced some black Havana cigars and the Doctors, eleven of them, lit up and soon were buried in clouds of smoke and in deep thought.

The minutes of the last meeting were read and approved. The annual election of officers was then taken up.

Dr. J. T. Lloyd, of Baldwin, was elected president; Dr. Alfred C. Wiesbusch, of Steeleville, vice-president; Dr. Albert E. Fritze, of Chester, secretary and treasurer.

In the absence of the newly elected president, the

vice-president, Dr. Alfred C. Wiesbusch, appointed Drs. Thomas Robertson, George Hoffman and J. T. Tiess as censors.

A motion was made and carried that Dr. N. G. Stevenson's resignation will not be accepted.

A motion was made by Dr. J. T. Riess, seconded by Dr. H. LeSaulnier, to approve and reply to a letter from the Jackson County Medical Society. This letter contained a copy of a letter from Representative E. E. Dennison, showing his attitude to the Maternity Bill and why he gave it such arbitrary support.

The letter from the Department of Public Health of Springfield was then taken up and discussed.

Every member present stated that they made strong efforts to report every case of birth and death, but that sometimes it is impossible to know to whom to report.

On motion by Dr. J. T. Wier, with a second from Dr. G. E. Hendrickson, the following resolution was acted upon:

The Randolph County Medical Society is willing to support the resolution of the state and to co-operate in every way with the State Department of Public Health in reporting communicable diseases, especially in the matter of births, still-births and deaths, if the state will furnish a definite person and place to report to.

A motion was then made to have our next meeting in the Park of Red Bud, Ill., about the first week in September, at the call of the president and secretary, and by all means bring the ladies, lunch baskets, coffee, black cigars, and combine pleasure with business "In God's out of doors."

Adjournment.

ALBERT E. FRITZE, Secretary.

### Marriages

JOHN SWOPE DAVIS CHAMBERS to Miss Helen Jones, both of Chicago, August 10, at Davenport, Ia.

EARLE BLOODGOOD FOWLER to Miss Barbara Blatchford, both of Chicago, August 5.

MARTIN L. D. MEYER, Chicago, to Miss Hortense Schroepfel of Collinsville, Ill., July 25.

KARL WILLIAM WAHLBERG, Moline, Ill., to Miss Blanche Mildred Carpenter of Rock Island, Ill., July 15.

### Personals

Dr. Lawrence A. Ryan was appointed city physician of East St. Louis, August 7.

Dr. Joseph T. Woodward, Lincoln, has been appointed full-time medical examiner in the U. S. Veterans' Bureau, Chicago.

Dr. Julian H. Lewis has been appointed as-

sistant professor of pathology at the University of Chicago.

Dr. Lowell S. Goin, director of the roentgen-ray laboratory, Peoria, has returned from Germany where he attended a course in deep roentgen-ray therapy at the University of Frankfurt.

Dr. Ulysses G. Darling has resigned as medical superintendent of the Lake Geneva Sanatorium, Lake Geneva, Wis., to take up practice in nervous and mental disease in Chicago.

Dr. Francis J. McNamara, chief physician of the Cook County Jail, Chicago, is successfully recovering from an appendectomy performed August 1, at the Michael Reese Hospital.

Dr. Charles B. McKlumphy has been appointed assistant professor of pathology at Northwestern University Medical School. Dr. McKlumphy has been working with Stoerk at the Franz Joseph Spital in Vienna for the past two years.

Dr. Jacob M. Furstman has resigned as city health director of Bloomington to take effect August 31. Dr. Furstman will assume the duties of director of health of the Peoria public schools, having been elected by unanimous vote of the Peoria Board of Education.

Dr. Frederick Robert Zeit, for more than twenty years professor of pathology at Northwestern University Medical School, at his own request has been relieved of active duty in the medical school. He plans to spend next year abroad. The Pathological Museum of Northwestern University will hereafter be known as the Frederick Robert Zeit Museum of Pathology.

Dr. Irving Browning, physician for the C. M. & St. P. Railroad, who mysteriously disappeared, August 8, was returned to his home in a dazed condition, August 20, by a taxicab driver, who also disappeared after ringing the doorbell at the Browning residence. Railroad officials indicated their belief that Dr. Browning, who had been engaged in treating nonunion workers since the shopmen's strike, had been kidnaped and that his release was due to the active police investigation of his disappearance.

Dr. E. J. Berkheiser announces that he will continue the orthopedic practice of the late Dr. Wallace Blanchard with whom he was associated at the Home for Destitute Cripple Children.

Dr. and Mrs. R. D. Luster, of Granite City, left on August 10 for Hot Sulphur Springs, Colo. They expect to be gone two months.

Dr. F. E. Glauner, of Marine, spent the month of July at the Mayo Clinic, Rochester, Minn.

Dr. J. N. Shaff, of Alton, spent his vacation in and around Denver, combining business with pleasure.

Dr. A. F. Kaeser, of Highland and Dr. H. C. H. Schroeder, of Granite City, assisted in forming a county organization of the American Legion.

Dr. and Mrs. I. J. Beard, of Godfrey, left on August 16, to make their future home at Tustin, Cal., about 16 miles from Long Beach.

Dr. and Mrs. W. H. C. Smith, of Godfrey, returned about two weeks ago from an extended vacation with home folks in New England.

Dr. A. L. Mann, city physician of Elgin, is working with greatly improved efficiency in the laboratory recently newly equipped by the city.

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## News Notes

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—Plans have been completed for the new hospital to be erected at Harrisburg, at a cost of \$75,000.

—Plans have been drawn for a \$150,000 addition to the Highland Park Hospital near the Exmoor Country Club, work on which will start in the fall.

—The first annual conference of the Chinese Medical Society will be held at Northwestern University, Evanston, September 11-14. American visitors are welcome. Several Chicago physicians will address the conference.

—A \$250,000 addition to Our Saviour's Hospital at Jacksonville is being completed. An additional \$50,000 is now being secured to purchase equipment and furnishings for the hospital.

—The cornerstone for the Eastern Star Home for the Aged, to be erected in Rockford, was laid recently at appropriate exercises. The new building is being erected at a cost of \$175,000 and will be completed by September 15.

—U. S. Ambassador Harvey, at the request of President Walter Dill Scott of Northwestern University, will present a bust of Dr. Green Vardiman Black, dean of Northwestern Uni-



versity Dental School, who died in 1915, to the London (England) University. Dr. Black was known as "the father of modern dentistry, and dental pathology and bacteriology."

—It is reported that Governor Small has dismissed W. H. H. Miller, director of the state department of registration and education, who was indicted by the grand jury at Chicago on a charge of selling numerous physicians' licenses and druggists' certificates. A. M. Shelton, Crystal Lake, for twelve years superintendent of schools in McHenry, has been appointed to succeed him. Miller's dismissal followed his refusal to resign after a medical board had recommended his removal some months ago and hundreds of letters from all parts of the state had been sent to Governor Small attacking Miller's administration.

—Announcement has been made that the U. S. Bureau of the Census will make a test in Illinois during September and October of this year to determine how completely births are being reported. In anticipation of the test, the state director of public health has carried out a vigorous campaign in behalf of prompt and complete returns. Every practicing physician in the state whose correct name and address were obtainable has received a letter urging him to report at once all unregistered births that had occurred in his practice and to be especially prompt with current and future reports. County medical societies have also been solicited with gratifying results, for active cooperation in this connection. A few delinquent physicians have been prosecuted. As a result of these activities, birth registration has increased about 10 per cent. during the last twelve months, and it is felt that this, coupled with renewed cooperative efforts on the part of physicians, will indicate a registration sufficiently complete to make Illinois eligible for the U. S. Registration Area.

—Doctors from Boone, Stephenson, Carroll, DeKalb, McHenry, La Salle, Jo Daviess, Whiteside, Ogle and Lee counties in Illinois and Rock county in Wisconsin, attended the convention of the First District, Illinois State Medical Society, at Rockford, August 23. Rockford physicians were hosts to the visitors.

Dr. Dean Lewis of Chicago was the principal speaker. A trip was made up the Rock river to Illinois Park on the steamer City of Rockford.

The doctors and their families spent the afternoon romping in the park. Games were played and various races run.

—Officers of the Illinois Tuberculosis association delivered addresses in various parts of the state the last week of August, in the interest of the modern health crusade in the schools. Mrs. Jayne B. Kerr, field secretary, attended teachers' institute meetings at La Salle, Hennepin and Toulon.

—Miss Ann Tillinghast, state supervising nurse, addressed similar meetings at Louisville, and in Pulaski, Galatin and Saline counties.

—J. W. Becker, managing director, spoke at Anna and Carbondale.

## Deaths

PHILIP ADOLPHUS, Chicago; University of Maryland School of Medicine, Baltimore, 1858; member of the Illinois State Medical Society; emeritus professor of clinical gynecology at Rush Medical College, Chicago; Civil War veteran; for thirty-three years superintendent of the Central Free Dispensary; consulting physician to the Presbyterian Hospital; member of the Chicago Gynecological Society and of the Society of Medical History; died, August 26, aged 94, from bronchial pneumonia.

ALONZO J. EDSON, Rockford, Ill.; Eclectic College of Medicine and Surgery, Cincinnati, 1857; died June 5, aged 95.

EDWARD M. EIDHEER, Chicago; University of Vienna, Austria, 1886; formerly expert in the department of agriculture, bureau of chemistry, Austria; member of the Royal Academy of Science of Vienna and the Academy Physicochimique Italienne; was awarded the gold medal for technical work and scientific merit of the Italian Academy of Palermo; died July 24, aged 60, from cerebral hemorrhage.

KATE J. GRAVES, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1884; Hahnemann Medical College and Hospital of Chicago, 1885; died August 12, at Fifield, Wis., aged 70, from heart disease.

PRIER J. HERMON, Raymond, Ill.; Rush Medical College, Chicago, 1863; died July 24, aged 88, from injuries received when he fell off the porch two weeks previously.

W. R. McLAREN, Galesburg, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1878; died, August 6, aged 72.

EMIL J. SCHWANDT, Chicago; Rush Medical College, Chicago, 1888; died, August 3, aged 59, from carcinoma.

WILLIAM OFFEE STORY, La Salle, Ill.; Eclectic Medical Institute, Cincinnati, 1894; died, August 7, aged 53, from carcinoma of the stomach.

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## Original Articles

### EMPYEMA \*

JAMES, T. GREGORY, M.D.

CHICAGO

The literature upon empyema is most voluminous and the opinions of the writers so different that the compilation of a paper upon the subject is rather a lengthy and tedious procedure, but I have tried to get together the salient points which I will attempt to present in as compact and brief an article as is possible.

The subject of empyema should be of interest to all of us, for as long as pneumonia is one of our leading citizens in the metropolis of disease, so shall we be called upon to diagnose and treat its offspring empyema.

The disease is an inflammatory affection of the pleura with a purulent exudate.

The large majority of cases follow or complicate pneumonia but may result from a tubercular effusion becoming purulent; may result from the bursting of a lung abscess into the pleural cavity or a subphrenic up through the diaphragm, or may be caused by punctate wounds of the chest which carry in infection.

The exudate may be purulent from the first, but usually starts as a seropurulent affair which rapidly thickens as the pus cells increase. The consistency of the pus depends upon the provocative organism. That of the pneumococcus is thick and creamy and is characterized by a peculiar greenish color, while the streptococcus and tubercular pus is much thinner and contains fewer formed elements. The pneumococcal form is prevalent in about 50 per cent. of hospital cases; then in turn comes the streptococcus staphylococcus, mixed infections and a certain small per cent in which the pus is apparently sterile. This occurs most frequently in the tuberculars

where the T. B. exudate is invaded by pyogenic cocci which in turn sterilizes itself. But rarely, the influenza bacillus, Friedlander's bacillus and the actinomyces are found in the pus.

Realizing its few exceptions, one can say that empyema is a complication of some lung inflammation; that lobar pneumonia, broncho-pneumonia, abscess of the lung and tuberculosis are the chief primary diseases, whereas penetrating chest wounds make up the remainder. During the last four or five years the epidemics of measles, influenza and streptococcal pneumonia have furnished us with much more than ordinary experience with the streptococcal type of empyema of which I will speak later.

In our consideration of the symptoms, diagnosis and time for treatment of empyema I am taking the liberty of dividing the disease into two distinct classes which I will designate as type 1 and type 2. Into type 1 put the common ordinary empyemas which we meet with day in and day out, namely: those which follow lobar pneumonia, tuberculosis, lung abscess and penetrating wounds. These are caused by the milder forms of pyogenic organisms. But in the type 2 let me put those empyemas which complicate the broncho-pneumonias of epidemic measles and influenza. These are caused by the streptococci in their most virulent strains and must be thought of differently from the first or milder type.

The symptoms of the milder or type 1 empyemas are mainly these: A lobar pneumonia passes or comes to the time of a crisis, but the temperature remains high, the dyspnea goes but the pulse rate is consistently rapid. The patient gets a pale sallow color; he sweats upon the least exertion and begins to lose more weight. A T. B. patient gets a little or much worse; his temperature and pulse climb higher; he complains that his weakness is greater; his breath does not come as easily as it did; all things point to a complication and our examinations reveal a

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pleurisy with pus. But in both instances, our patient has already some or even a great deal of immunity to the complicating organism and the onset of the complication is not as stormy as it might be were not partial immunity established. A leucocytosis is present.

But in the type 2, or the streptococcic variety, we already have a patient who is intensely septic, his temperature is high, his pulse is rapid; although this may not be constantly so, as some of the flu-pneumonias did not run a high pulse rate; his dyspnea is most marked, he is cyanotic and is racked with cough, spitting up the bloody, frothy, dirty mucus that only a streptococcus pneumonia can spit; on top of this, if such be possible, he gets worse and as the symptoms of an engrafting empyema are exactly synonymous with the symptoms he already has it makes the empyema diagnosis difficult. This empyema comes because the edematous lungs squeeze out some of its seropurulent exudate into the pleural cavity and, as I say, the present symptoms merely become more aggravated. In this type the leucocyte count is normal or below. The onset is much earlier than in type 1 where the empyema is nearly always a sequela which develops after the initial disease has been in progress for some time.

The physical signs of pyothorax are necessarily those of a pleural cavity, which contains, instead of functioning lung, fluid. If this fluid be that of a simple empyema, the diagnostic signs are fairly constant and well marked, but if the fluid be the pus accumulation which is superimposed upon greatly altered lung tissue, as most of our metapneumonic empyemas are, the early diagnosis of such a condition demands the greatest skill and study on the part of the clinician. The appearance of the patient is always that of sepsis; the longer the disease has been present, the more this condition is accentuated, as the vast majority of empyemas get worse until treatment is established. The affected side is more or less crippled in its respiratory movements, there being less motility than in the healthy side. The intercostal spaces bulge in thin people and in children. There may be slight edema of the chest walls. An empyema of the left chest may pulsate due to the transmission of the heart beats through the adjacent fluid. A displacement of the apex beat is common in large effusions.

The sense of touch may reveal a leveling of

the interspaces and the abnormal position of the apex beat may be detected. There may be some tenderness over the pus area which is due to an associate inflammation of the intercostal nerves. This sign is regarded by many writers as a sign of great diagnostic value. The tactile fremitus is nearly always impaired or destroyed over the actual infected area. The percussion note over the exudate is extremely flat; the thicker the pus the flatter the tone. The vesicular sounds are lost and the voice sounds upon auscultation are diminished in intensity and are heard as coming from a distance. As the lung above the pus cavity is often adherent to the chest wall the bronchial breath sounds are transmitted down the wall to the stethoscope which confuses one and it is often impossible to differentiate between empyema and consolidation for this reason, at least it makes auscultation not a constant diagnostic sign. Of greater value for absolute and final determination is the puncture and aspiration of the suspicious chest, but even here the dry puncture does not exclude empyema as one may stab into a walled off area where the pus has not reached, or one may not go into the cavity, which often happens, when there is adherent lung tissue. However, it is our most constant friend in the court of last appeal, although we may wish to finish our consideration by x-ray findings, which are fairly reliable and certainly most called for, being of particular value in locating sacculated or encapsulated pus pockets which are situated too far from the chest wall to be detected by sound variations or by the usual physical signs.

The diagnosis of the empyema must be differentiated from that of delayed resolution, lung consolidation, from lung abscess and from simple pleurisy with effusion. As it is often difficult, we should not attempt to determine the condition from a few pathonomonic signs but should study the picture complex made by a correlation of the evidence obtained from all the methods of diagnosis at our command.

After being sure that our complication is that of pyothorax our next step is treatment, and as the treatment of empyema is now unanimously considered surgical the all-vital question arises and is a question over which much debate and heated argument has arisen in the last few years among military and civil surgeons: When shall



surgery be instituted? To answer this, let me revert back to our classifications type 1 and Type 2, as the time for each is different, and study the pathology of these two classifications.

During the progress of a lobar pneumonia and of the milder broncho-pneumonias, there is a decided thickening of the adjacent pleural coverings which is usually coated with a fibrinous exudate in which the invading organisms and leucocytes abound. This exudate tends to organize, thus forming strong bands of adhesions which fix the affected lung, fix the mediastinum, and plaster down the diaphragm, causing loss of motility in this organ. In other words, the whole chest on the affected side is a starched vault, distinctly less capable of expansion and contraction. Now, then, if we neglect early drainage of the pus which engrafts itself upon this soil, we soon get a lung which will not expand when the pus and pressures are relieved, owing to the density of the adhesions. Likewise, the mediastinal adhesions tend to fix the heart in its abnormal position, so we hurry to drain the pus accumulation as soon as we determine the condition of empyema. But please remember the pyothorax has developed after the pneumonia has traveled a given course, adhesions are formed, immunity to the causative bacteria has progressed favorably, else our patient would have died of the initial disease, and he is as ready for surgery as only walled-off abscess would be.

Let us now consider what we do when we open the pleura cavity. All procedures except aspiration, which has been discarded as not curative, produce on the opened side a pneumothorax which completely collapses the lung. A factor of the utmost importance is that there is a corresponding partial collapse to some degree on the good or non-affected side, which squeezes the well lung. This happens because the mediastinum is pushed over toward the well lung, and the diaphragm pushed up, which makes compression. This fact has been accurately determined and is well accepted.

We are now ready to study the time for treatment of type 2, the streptococcic empyemas, complicating the streptococcic pneumonia, and as we do, we face the stern fact that these empyemas develop early, masked as they are in their development, by the intensity of the existing condi-

tion. But if in the progress of the pneumonia we discover empyema, what are we going to do about it? Here we have a patient who is intensely septic, and is most markedly distressed by air hunger, so much so that every respiratory possibility is trying to get him more oxygen. We decide to relieve his pus accumulation, we open his chest, we completely collapse what breathing lung space he has upon his bad side, and compress the other lung by our induced pneumothorax. We are now guilty of adding greatly to the air hunger which he has or from which he may be dying, and he stands no more show of getting well than if we had hit him over the head with an axe.

If we don't open him, what shall we do? Let him alone until adhesions form to fix his mediastinum and diaphragm, let his chest wall stiffen out so the good lung will not compress, let him develop some immunity to his infection, because you are not going to save him trying to let out some free pus, when his lungs are water-logged by the same material against which he has no antitoxins. Let him go a few weeks until the virulence of the disease undergoes a transformation, and the intoxication grows less severe; then surgical interference will be curative, and not the sure means of death. I was in an army camp where all these facts were pointed out to the chief of the surgical staff by the chief of the medical staff without avail, and the orders came to us to operate on all cases of empyema at the time of discovery. Our mortality rate was 100 per cent.

Near the conclusion of the war, the commission appointed by the United States government to inquire into the empyema situation, decided and advised, after a thorough study of the statistics presented by the various army camps, that the early operation in streptococcic cases was of the utmost folly, because of the danger of lung collapse from pneumothorax, because of the danger of blood stream infection from fresh wound surfaces and because of the desperate state of the patient. Aspiration, however, has been determined non-injurious at any stage, and the pus of the strep variety may be drawn off frequently, until the time arrives when one can safely do a curative operation.

With few exceptions the rule is, open the type 1 cases early and don't wait too long, while in type 2, wait long enough.

The cardinal rule of abscess treatment applies

to empyema in exactly the same proportion as it does to abscess anywhere else in the body, namely free opening and continuous drainage, yet there are a few clinicians who still cling to the aspirator because they have had one or two cases get well by this method, but this is the exception rather than the rule and such treatment tends to devitalize your patient as it lets the empyema lower the resistance, and when the surgeon gets it for radical drainage the continuance of the sepsis has made it a poor surgical risk and the chance for recovery more remote.

In those cases which present a picture of exhaustion, and whenever it seems inadvisable to submit the subject to a cutting operation or to the shock of sudden evacuation it is permissible to aspirate with a fairly large trocar, insert a small catheter through the cannula and allow it to remain after the withdrawal of the cannula, thus permitting a slow continuous drainage of the pus which is gradual enough to allow a re-expansion of the lung. The method has distinct disadvantages as the moving and coughing of the patient dislodges the tube and the small lumen is obstructed by the formed elements in the pus. It does not permit a free drainage and usually more radical work must be done later when the patient is in shape to meet it.

We now come to the radical cure and the one most applicable in the great majority of cases, that of thoracotomy or excision of the chest wall, either alone or combined with rib resection, as is the practice with most of our domestic surgeons. The site of incision has also been the subject of much debate and the different authors of empyema literature disagreed. English surgeons prefer it on the back at the scapular line at either the ninth or tenth interspace, claiming, of course, the best drainage and the best results. Our American surgeons, however, seem to favor the site at the fifth or sixth interspace, several inches backward from the anterior axillary line. Even a lower level, the eighth or ninth interspace, in the mid-axillary line, is used by many, but has the objections that it is so low the rising diaphragm soon bends or obstructs the tubes. After a survey of the literature I find the majority favor the lateral site in the fifth or sixth interspace.

After choosing the site an incision is made over the interspace and rib of choice, and should the interspace be wide enough one may insert his

tubes by merely incising the pleura and fastening them in. However, it is my belief that better drainage and a more satisfactory opening can be established by the resection of some rib structure. The pleura should not be opened until the desired bone has been removed. We now enter the pleura and immediately the pus flows out and a pneumothorax is produced which is not a disadvantage but rather an advantage if our operation time is right. The condition of pneumothorax aids the removal of the fluid by a pump action as every time the subject inspires he sucks in air and on expiration the inspired air volume tends to replace the pus, thereby pushing it out. One or two tubes of sufficient lumen for easy drainage are inserted into the cavity and pinned or sutured with silkworm into place. The incision is then routinely sutured around the tubes. These should be cut off about flush with the skin surfaces so that the patient in rolling will not be bothered with them. Ample dressings to catch the pus are then put on and changed whenever they become saturated. No attention need be given to the tubes until a week has passed, when they may be taken out and replaced with smaller ones or else a single tube. In children, at the end of a week or ten days, the drainage may be entirely removed, as the fistulous tract established will permit enough drainage until recovery. In adults some drainage should be left in 4 to 6 weeks. Most all cases may leave the bed after a week or 10 days, as the upright position tends to facilitate drainage. A rise in temperature, a chill, sweats or an increase in leucocytes is a sure sign of obstruction to the free passage of pus and should be immediately accounted for with the proper remedy that the easy flow may be established. As recovery takes place the drainage becomes less and less and the lung expands more and more into the pus cavity. It is then, the drainage tubing should be shortened to avoid contact with the advancing lung and diaphragm as continuous pressure upon either may terminate in gangrene.

During the period of convalescence the hygiene of the patient must be greatly respected and his resistance be aided by fresh air, proper nourishment and medicinal tonics, of which cod liver oil preparations combined with a syrup of hypophosphates compounds receive the highest recommendation. Intravenous injections of iron and arsenic

are also most useful. At this stage also exercise of the respiratory tract should be instituted and consists of deep breathing with the lowering and raising of the arms, which helps chest and lung expansion. Blowing into a bottle I have found most beneficial, as it drives the affected lung downward, loosening the fibrous attachments to the chest wall. This will demonstrate itself nicely by having a patient blow into the bottle with the dressings off, when one can see the pus exude most freely from the wound upon each exertion.

After the above described operation and after-treatment, most cases will clear up in from six weeks to two or three months. At the end of this time the empyema can be said to be chronic and occurs for the following reasons:

1. An opening badly situated or insufficient in size.

2. The large size of the cavity, which is not capable of full reduction because the limit of contraction of the walls and the expansion of the lung has been reached, due to the density of the inflammatory adhesions.

3. A sudden collapse of the lungs from wounds or from rupture of lung abscess. A complete collapse comes here before pleural adhesions have helped fix the lung and a resulting empyema cements the lung in the apex of the cavity whence expansion after adhesions thus formed is often impossible.

4. The presence of a bronchial fistula which does not allow the lung to be ballooned out and thereby defying expansion.

5. Tuberculosis in which calcareous masses are formed which block expansion.

6. Malignancy of the pleura.

7. Foreign bodies.

All of these conditions prevent complete lung expansion and the rule applies that simple drainage alone is not curative. As long as open pleural space remains suppuration will continue, therefore if the initial opening is wrongly placed or too small, make another one in the right spot for drainage or enlarge the old one.

If the other conditions exist they must be treated according to their cause.

Small unobliterated pleural cavities have been greatly benefited by the injection of bismuth paste and many cases are recorded of successful obliteration after one injection. However, the larger

ones must be cured by multiple rib resection and by plastic flaps which allow the chest wall to collapse upon the affected lung, thereby closing the spaces. These operations are fortunately rarely needed as our diagnostic facilities permit us a fairly early and accurate knowledge and the early cure prevents the solid adhesions which fix the lung making complete expansion impossible. These surgical procedures vary from taking out two ribs to the re-section of the entire set on one side and are most mutilating. I will not attempt to describe the operation.

I have purposely omitted in the treatment after thoracotomy the irrigations, washings and injections which have been used, such as carbolie acid, mercury bichloride, salicylic acid, boric acid, normal salt, potassium permanganate, iodine, formalin and most recently Dakin's solution, because they are rarely necessary. Excepting Dakin's, statistics show that healing takes place more rapidly when irrigation is not employed. The purpose of all is to wash out the flakes and to sterilize the cavity. The question of washing out the flakes is very debatable as the introduction of the fluid separates the pleural layers and destroys the granulation meshes or repair tissues whereas the idea of sterilization is exploded as the bacteria are so imbedded in the fibrinous exudate that they are far beyond the reach of any antiseptic. Dakin's solution, which depends not so much upon its antiseptic qualities, but rather on its ability to digest the necrotic tissue upon which the organisms thrive, may be all right, but the greatest care must be taken in the titration of the solution, in its preparation, in the placing of the carefully selected tubes together with the frequency of its application, almost make it prohibitive to use by those who have not the organization to handle it. Reports have come from all clinicians of fatal accidents during irrigation, even Dakin's, so why complicate a simple curative drainage treatment, knowing that the benefit is doubtful and the harm positive, both in its effect on the local process of healing and in subjecting the patient to occasional peril.

The treatment of the unusual types of empyema I have not time to dwell upon.

In conclusion, what are the results of empyema treatment? The prime factor, of course, is the virulence of the infection and in the susceptibility of the host. This is so true in empyema that no



generalities can be made. But a few of the special conditions that influence the course of the disease may be touched upon. Empyema in children in the first two years of life has the highest mortality rate; later on in life, however, the infection is more amenable to treatment than in adults. This is due to the fact that most empyemas in children are pneumococcal in origin and relatively benign. The pneumococcal type responds the more favorably to treatment and surgery. The larger exudates are the best surgical risks and most of them recover. Tubercular patients are bad risks because of their constitutional condition. Patients that have had a long pneumonia are poor risks.

In considering all the factors which govern the management of empyema, the outstanding one, the one upon which most judgment must be given and the one upon which the success of our surgery depends, is when shall we institute drainage? If this question be answered properly, I believe our results will be effected proportionately.

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## THE SURGICAL ASPECTS OF UTERINE MAL-POSITIONS\*

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The surgical consideration of displacements of the uterus is rather a broad subject, and a discussion of the same must necessarily take up separately the types of mal-positions, not alone from an anatomical standpoint, but also from the standpoint of the age of the individual and associated pathologic conditions. In reviewing the subject of the various mal-positions within the limited scope of a single paper, an endeavor will be made to make a simple classification and succinctly consider each group separately upon its own merits.

The largest number of mal-positions of the uterus would seem to come in a classification of retrodisplacements of varying degrees. In a general way, retrodisplacements may be classified as simple displacements and complicated retrodisplacements.

Simple or uncomplicated retroversions are com-

mon. It is estimated that in over one-fourth of the women the uterus occupies a retroverted position. Apparently in the majority of them there are no symptoms which can be correctly assigned to this position of the uterus. It is probable that in many such cases the cure of cervicitis, or endocervicitis, or the repair of a pathologic cervix will remove all existing symptoms without treatment of the retroposition. Backaches or other general symptoms should not indicate a surgical procedure for a simple or uncomplicated retroversion until all other potential causes, gynecologic or otherwise, have been removed.

In the second group may be placed those cases in which concomitant pathology has existed for some time and the uterus has developed some pathologic conditions of the endometrium or metrium. Pelvic adhesions interfering with the free mobility of the retroverted uterus may produce symptoms worthy of surgical relief. This condition may exist to a greater or less degree of severity. The time has come about, however, when retroversions are taken less seriously by the gynecologists than some twenty years ago.

For the relief of uterine misplacements, without prolapse or with a moderate degree of prolapse, some type of round ligament operation is probably the most logical. The uterus is movable in its normal suspensory mechanism of the round and broad ligaments and rests upon the pelvic floor. This anatomic fact should be the governing principle of all procedures for replacements of uterine mal-positions. Those procedures which are antagonistic to this principle do not give the full degree of relief that should be had from an operation for a retrodisplacement. Either the attachment of the uterus to the abdominal parietes or some acrobatic handling of the round ligaments will frequently lead to the production of some symptoms not previously existing, even though the uterus is apparently held thereby in a perfectly normal position.

The various types of round ligament plications present recognized merits. The Coffey technique is very efficient in many malpositions.

The degree of mal-positions varies in different cases, as well as the degree of laxity of the peritoneal suspensory ligaments of the uterus. The important feature, however, is the fact that the relative planes of the internal ring and of the fun-

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dus of the uterus vary remarkably in individual cases. It has always appeared to us that each case should be individually considered; and, instead of making a more or less universal application of a particular type of plication to all cases, one should upon inspecting the pelvis consider himself in the position of a carpenter who has before him material from which to work out a result. By separately and with forceps grasping the fundus of the uterus and the two round ligaments, the uterus can be lifted to a desired position and the round ligaments and pelvic folds laid out upon it in a manner which would seem best to maintain the desired position. By painstaking measurements, a position for the best plication of the ligaments can be ascertained. This should be one which will produce an even distribution of weight bearing, and at the same time the maximum degree of peritoneal fixation. It is recognized that the musculature of the round ligaments will finally draw out of any sutured situation, and our ultimate dependence must be placed upon that peritoneal fold of the broad ligament (and associated fibrous tissue) which is a part of the round ligament. The pursuance of this principle will disclose the fact that in some cases plication should extend largely over the fundus and the upper portion of the posterior surface; and in other cases the relative planes of the uterus and interior rings indicate a plication largely to the fundus and anterior surface of the uterus.

The suturing technique is of less consequence, excepting that it should be adequate and extensive, so as to give the ligament a firm and thorough hold which will not draw out.

Pulling the round ligaments through the broad ligaments beneath the tubes apparently does not constitute as durable or as anatomic a result, and at the same time may lead to subsequent symptoms not previously existing. In those cases showing an extreme anterior situation of the cervix, a shortening of the sacro-uterine folds materially helps to hold the uterus in its restored situation, as well as relieving the pull upon the shortened round ligaments. It is probable that the shortening of the sacro-uterine folds should be more often performed.

It is especially desired to emphasize in this paper the principle of adapting the technique

used to the anatomic conditions found in individual cases, instead of applying a fixed technique universally to all retroversions. It is believed that the result obtained in a series of cases will be materially better if we apply mechanical principles to each case of retroversion, rather than fit each case to certain mechanical ideas.

The type of uterine mal-position commonly termed prolapse seldom exists without symptoms, and usually progresses until it becomes a surgical disease. Prolapse of the uterus might more technically be placed in the classification of a hernia through the pelvic floor. Phases of prolapse of the uterus are extremely variable. It may be manifested only by a cystocele without the appearance of the cervix at the vulva, unless traction is applied to the cervix to demonstrate beginning hernia.

Prolapse of the uterus has often been divided into a classification according to the degree of prolapse; namely, first, second, third and fourth degree of prolapse. A surgical consideration of prolapse, or hernia of the pelvic floor, however, usually calls for a classification not so much according to degree as according to age; namely, prolapses which occur between the ages of twenty and forty; those which occur during the menopause; and those which occur in patients who have passed the menopause. The treatment required during these different periods of life are usually entirely different.

A prolapse occurring prior to the age of forty is seldom of the third or fourth degree. The problem in this class of cases can usually be effectively met by an efficient repair of the pelvic floor and a round ligament suspension. It is probable that a restoration of a small hernia at this time of life would prevent many of the third and fourth degrees of prolapse which present themselves for consideration at a later date.

The pelvic hernias occurring in the second period. The uterus is usually atrophic, or in the third and fourth degree of prolapse. In such cases, cystocele is the conspicuous symptom. In this period, if the prolapse is only of the first and second degree, the repair of the pelvic floor and the round ligament procedure is usually efficient. But in the third and fourth degree of cases, a more radical procedure is indicated. The interposition operation, as perfected by Watkins,

is very logical. When done strictly in accordance with his technique, followed by an efficient perineorrhaphy, a very perfect result is obtained in selected cases. The operation is relatively free from danger, as well as free from most operative discomforts, and gives a relatively short convalescence. The technique is so well known that we are not warranted in consuming your time with a discussion of the details.

For this second period of life, an operation which we advocate for the third period is also applicable, especially if there is any existing or potential uterine pathology; namely, the vaginal hysterectomy procedure, which will be taken up in the consideration of the third period.

In the third period of life, the usual hernia of the pelvic floor is of the third or fourth degree, instead of the first and second, as in the first period. The uterus is usually atrophic, or in the early stages of atrophy. It is too small to serve the purpose it is required to serve in the interposition procedure. If the interposition is done at this time, it is probable that ultimately the fundus will present itself at the vulva instead of the cervix, and the bladder will follow it to the outside.

Kocher's technique, consisting of placing the body of the uterus outside of the linea-alba; Murphy's technique of putting the uterus in the same position, having previously split it in two and spreading out the two halves laterally on the external surface of the external fascia; and Mayo's technique of a supra-cervical hysterectomy, suture of cervical stump to the internal surface of the sheath of the rectus—are all applicable only to those cases where the vaginal walls are long enough to permit of so extreme an elevation of the uterus. As pointed out by Franklin Martin many years ago, there is usually in such cases an atrophy of the posterior vaginal wall. These procedures appear strong and efficient. In the event that they can be carried out, however, they do not give the anatomic result that is obtained by the Mayo technique of vaginal hysterectomy with a folding over of the relaxed broad ligaments. It must be borne in mind that the anatomic support of the outlet of the pelvis above the true pelvic floor consists of the structures of the broad ligament, including the round ligament. Hysterectomy removes the weight of

the uterus, and at the same time the lateral ligaments are shortened by folding them upon each other. The firmness of this support is always adequate to maintain the vault of the vagina in its normal situation. The bladder, fastened to this new transverse peritoneal ligament, is adequately held upward so as to cure the cystocele. By turning the cut edges of the broad ligaments downward and outward, no exposed surface is presented in the peritoneal cavity, and the danger of intra-abdominal bleeding is obviated. We have found this procedure extremely efficient and its effects lasting. The repair of the perineum is, of course, always used to supplement this procedure.

In conclusion: First, the average simple retroversion is not pathologic and is not a surgical lesion. When it is complicated, and when it presents surgical symptoms, the type of round ligament operation employed should be such as to mechanically meet the requirements of the individual anatomy of the subject under consideration, rather than following out any definite type of round ligament operation.

Second, when hernia of the pelvic floor occurs during the child bearing period, it is usually of the first or second degree of prolapse, and can be best remedied by the round ligament operation with repair of the pelvic floor.

Third, during the second period of life, prolapse of the uterus may be best relieved by either Watkins' interposition operation or the Mayo technique of vaginal hysterectomy.

Fourth, during the third period of a woman's life the vaginal hysterectomy with reconstruction of the transverse peritoneal ligaments gives the best anatomic repair and the best functional results.

Fifth, all repair procedures should be made with the principles of normal anatomic conditions in mind and with special efforts to make said procedures in consonance and harmony with normal anatomy.

Sixth, attachments of movable viscera to fixed structures, or in situations where a normal degree of mobility cannot occur, or in such a manner as to subject the new formed attachments to any undue degree of tension, are neither durable nor functionally correct.



## DIAGNOSIS AND TREATMENT OF PEPTIC ULCER AND GALL BLADDER DISEASES\*

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Gall bladder disease, peptic ulcer and appendicitis might well be termed the *big three* of the gastro-intestinal tract. On account of the frequent similarity in the vagueness of their syndromes they most certainly form a *formidable triple alliance* in baffling the physician, and in being a source of discomfort and danger to the patient. Were these pathological conditions always to adhere steadfastly to the group of symptoms we know as typical, their detection would be comparatively easy. The fact that they stray from the straight and narrow path of their textbook symptomatology, coupled with the fact that they sometimes coexist, present problems in diagnosis and treatment that are attracting wide medical interest.

These obscure syndromes are associated more frequently with gall bladder disease and peptic ulcer than with appendicitis, and newer methods of diagnosis have served to direct the trend of attention toward the former two conditions. It is the purpose of this paper, therefore, to epitomize what we have learned from the analysis of 104 more or less obscure cases seen during the last 18 months. In 67 of these cases the disturbances were attributed to the gall bladder; in 43 to ulcer, and in 4 to both. The readiness with which the diagnosis is made and confirmed in the cases presenting typical pictures leads us to omit them from the present discussion.

In the detection of ulcer and gall bladder disease the anamnestic data, although sometimes inconclusive, probably holds first place in importance. Too much stress cannot be laid upon the necessity of a carefully obtained history of the present illness. On the other hand, it must be borne in mind that a history of vague digestive disturbances and gradual impairment of health are not infrequently the only symptoms complained of. It also may be accentuated that symptoms of gall stones may be duplicated by duodenal ulcer. Family history, age, habits and build of the patient are of less importance, but may give us a clue. Statistics as to sex and

occupation are confusing, and, in our experience, inconsequential in differentiation. The history of former infections, with the exception of typhoid fever, is relatively unimportant from the standpoint of diagnosis, but may give us a clue as to the etiology.

As a rule, physical examination of the abdomen gives us less information than the history. It has been our experience to find quite often, after the history and results of physical examination have been obtained, that only a tentative diagnosis could be made at best. Inspection of the abdomen is frequently negative. Vertical percussion (Murphy) over the gall bladder region sometimes helps in locating slight tenderness. Palpation is of the most value and gives us information as to tenderness and muscle spasm in the location of the affected area. Palpation of both hypochondria, with the examiner sitting behind the patient, is a good method for comparing the degree of tenderness on the two sides. Slight tenderness may be elicited in the gall bladder region by this method. One or more of the tender pressure areas described by Friedman has been brought out in seven of our cases that proved to have gall bladder disease. Two of these areas were elicited in one case of duodenal ulcer in which no evidence of gall bladder disease was found at operation. This test is quite interesting, but care should be used in its application and in drawing conclusions, especially in nervous and suggestive individuals.

The meager amount of information frequently obtained from the examination of the gastric contents has induced many clinicians to discard the procedure as a routine test. However, we feel that the definite information occasionally obtained therefrom fully justifies its use. In routine work we adhere to the classical Ewald meal, which is totally withdrawn in 45 minutes to one hour. In selected cases the Rochester modification of the Rehfuß fractional method is used. A condition of hyperacidity may be found either in ulcer or in early gall bladder pathology. In the long-standing cases of cholelithiasis and cholecystitis hyperacidity is usually encountered. Microscopical or occult blood speak for stomach pathology. In the fractional method, if 200 c.c. are recovered at the end of two hours, it points to retention.

When occult blood is found in the stool, one

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usually suspects ulcer, although bleeding may occur in gall bladder disease. In the examination of the stool the patient's diet and the possibility of bleeding elsewhere in the gastro-intestinal tract must be taken into consideration. The blood picture is of value in acute conditions and gives us an idea of the degree of acuity of the process. The cholesterine content of the blood has not been used as a criterion for diagnosis in any of our cases.

For the detection of ulcer the Einhorn string test has proved to be a valuable diagnostic adjunct. The ease of its application, and the readiness with which it is accepted and borne by even the highly nervous patients, are points worth mentioning. When properly performed and fully checked at least once this test gives us definite information as to the location of the ulcer. As a guide in medical treatment the test also has proved its value. About 30 inches of No. 5 braided silk with anchor firmly attached are given to the patient at bed time. Foods that may stain the string are prohibited. In the morning, when the string is removed, a knot is made at the teeth for the purpose of determining the length of string swallowed. Dark blood stains on the withdrawn string are considered as evidence of ulceration. No attention is paid to fresh stains, which may be caused by trauma in withdrawing the string. The distance of the stain from the knot determines the location of the lesion. Instead of the duodenal bucket we use, as an anchor, a small glass capsule, which is made from a half to a three-quarter inch length of 5 m.m. glass tubing annealed at both ends until the openings are quite small. The opening at one end is left slightly larger than at the other to provide for the passage of the knotted silk inside the tube. This type of anchor has proved very satisfactory. When taken from the patient in the morning the capsule is invariably full of bile if it has reached the duodenum. If it has not passed into the duodenum the contents may reveal the nature of the obstruction.

It is interesting to note that the wave of enthusiasm following the introduction of the Lyon method of nonsurgical biliary tract drainage has been supplanted to some extent by a wave of criticism. The latter has been directed chiefly toward the difficulties of the procedure, the liability of error, and the question concerning the

source of the several fractions of bile. We believe that, inasmuch as the test is new and has some vulnerable points of attack, it should be considered conservatively as a supplementary diagnostic procedure. However, we use the test and have not infrequently felt assured of its value in the detection of infection and stagnation of the biliary tract. The application of the method in therapy will be discussed later.

The positive value of roentgenology in gastrointestinal work cannot be denied but, unfortunately, it is not the all-seeing, *sine qua non* of diagnosis that many consider it. In the majority of our cases the x-ray findings were strikingly negative or at best indefinite. It is well to keep in mind that indirect signs, such as gastric spasm, hypermotility, and evidence of adhesions in the right upper quadrant causing deformity, fixation or displacement of the duodenum of pyloric end of the stomach, may be found in both ulcer or gall bladder disease. Evidence of adhesions in our experience is rare in these conditions and is found to be more frequently associated with neoplasm. A slight break or deformity in the smooth outline of the gastric or duodenal mucosa is usually evidence of ulcer. The string test generally settles the diagnosis. Filling defects, due to adhesions, occur occasionally but are not constant in outline. When the defect is due to spasm the condition is often relieved by belladonna. Gall stones have been demonstrated in only six of our cases. In two of these the Lyon method was used before the presence of the stones was revealed.

Pathological conditions which command attention in the differential diagnosis are fairly numerous. Of these, appendicitis has been mentioned. Others encountered most frequently are: 1, Gastric cancer; 2, Mucous colitis; 3, Gastric crises in tabes; 4, Renal colic; 5, Dilated cecum; 6, Angina pectoris; 7, Lead colic; 8, Pancreatitis; 9, Dietl's crises; 10, Diaphragmatic pleurisy. It should be remembered in disease of the upper right quadrant that a thorough search of the lungs and pleural cavities for evidence of pathology should never be omitted, and, furthermore, the physician should not forget that the stomach is almost invariably a flag station for tuberculosis and other chronic debilitating conditions. One hundred per cent. of pulmonary tuberculosis shows gastric disturbance at some time during its course.

It is obviously too early to give you definite

results of our treatment in this series of cases. It is our habit to treat medically all cases of ulcer in which there is no suspicion of malignancy or evidence of obstruction. Our results thus far have been quite satisfactory. The Sippy diet, or one of the American modifications of the Lennhartz diet, is generally used. Alkalies are administered in sufficient amount to combat hyperacidity. Duodenal feeding has proved efficacious in 2 cases that were persuaded to take the tube. Rectal alimentation for from 7 to 10 days was necessary in 3 of our patients, two because of persistent vomiting, and one because of repeated hemorrhage. In the ambulatory patients we use a slight modification of the Boas treatment.

Surgery is considered expedient in cases with persistent bleeding, evidence of obstruction, and in the occasional case in which medical treatment fails. The location and extent of the lesion are the factors which lead to the decision as to the operation of choice; i. e., gastroenterostomy, or excision.

The Lyon drainage is quite valuable in the medical treatment of the pathological gall bladder. It is the only method that has given satisfactory results in stasis of the biliary tract, with or without infection. Its employment is indicated in obstructive jaundice, cholecystitis, cholangitis, indefinite dyspepsias, and vague digestive disturbances with or without migraine. It cannot supplant surgery where there are gross pathologic lesions of the gall bladder, or where gall stones are present, but it can be used as an adjunct to surgery in postoperative treatment where drainage is necessary, and in preoperative gall stone cases with jaundice.

As to surgery, cholecystectomy is the operation of choice in chronic pathology and cholecystectomy in the acute conditions. In removing the gall bladder we have always begun at the fundus, stripping the bladder free from the liver or adhesions in the direction of the neck. After it has been freed, the removal is simple. In many cases no drainage is used, but a small cigarette drain may be inserted, and will do no harm. When an incision in both upper right quadrant and appendiceal region is indicated, I believe that the method of choice, in practically all cases, is two short incisions instead of a single large one. The weak abdominal wall frequently following the large incision is thus obviated. This matter, how-

ever, must be left to the discretion of the surgeon and to his ability to work with ease and confidence in the short incision.

Our conclusion from the analysis of these cases, therefore, justifies a repetition of the assertion that the differentiation between peptic ulcer and gall bladder disease is not always an easy matter. However, a carefully obtained history and thorough physical examination, with the aid of roentgenology and the above mentioned special laboratory methods, should lead to a definite diagnosis. We wish to emphasize the value of: 1, the Einhorn string test as an adjunct in diagnosis of ulcer, and 2, the Lyons method in the diagnosis and therapy of gall bladder disease. We have said nothing concerning the problem of focal infection, but it should be understood that no treatment is complete without a thorough search for, and eradication of, any possible focus.

#### MEMORY DEFECT OF KORSAKOFF TYPE, OBSERVED IN MULTIPLE NEURITIS FOLLOWING TOXEMIA OF PREGNANCY\*

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It has long been recognized that alcoholic multiple neuritis is frequently accompanied by an interesting type of psychosis which is now popularly designated as Korsakoff's psychosis. Impairment of immediate memory, mild mental clouding, confusion and fabrication, comprise the salient features of the syndrome. For a considerable period of time, after the acceptance of the Korsakoff syndrome, little reference was made in the literature to its occurrence in the multiple neuritides having their etiologic basis in toxemias other than alcohol. Recently, however, our attention has been called to the presence of memory defects associated with carbon monoxid poisoning, and it has been observed that not infrequently such defects have been of long duration, if not permanent in character.

Some time in April, 1914, I was afforded the opportunity of examining Mrs. B. W. T., who had recently been admitted to the Iowa Methodist Hospital. Mrs. T. was at that time suffering from a well-marked attack of multiple neuritis,

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which had followed shortly after a therapeutic abortion, necessitated by pernicious vomiting of pregnancy. In this case, aside from the ordinary polyneuritic symptoms, the point of chief clinical interest was the memory defect which she then exhibited, and which immediately made me think of its similarity to the amnesia observed in alcoholic neuritis. I was, therefore, much interested in following up the subsequent course of the malady. It did not occur to me then that such cases are relatively infrequent; therefore I had no thought of publishing a clinical report at the time the case was under observation. It was not long after, however, that I saw a similar case which also followed pernicious vomiting of pregnancy, and during the past two years two others have come to my attention.

I regret that in making this report, much of the minutiae and clinical detail may have to be omitted owing to the fact that three of the patients were examined during hurried consultations in the rural districts, but I trust that I shall bring out sufficient data in each case to establish beyond a reasonable doubt the diagnosis and the associated memory defect which makes this report justifiable.

In looking over the text-books on neurology, psychiatry and obstetrics, I find few helpful references pertaining to this subject, which is frequently dismissed with a statement to the effect that multiple neuritis due to puerperal infection is an occasional complication of the puerperium. The whole subject of toxemia of pregnancy is as yet in a chaotic state. It is to be hoped that modern methods of research in the field of blood chemistry may clear up some of the theoretic speculation which pertains to it, but at the present time we only know positively that certain toxins, apparently of endogenous origin, are frequently manufactured in the body of the pregnant woman and do lead to eclampsia, pernicious vomiting and other toxic phenomena.

Before presenting my case reports I would like to refresh the reader's memory on a few points pertaining to the subject of multiple neuritis, making special reference to the so-called puerperal type, and to those forms in which marked morbid psychic phenomena have been most prone to occur. It is a well-established conclusion that focal or multiple neuritides may be caused by a great variety of infectious diseases and poisons,

that the infections which are most prone to generate tenacious toxins are most frequently followed by neuritis, and that the neuritides following metallic poisoning usually manifest themselves as subacute or chronic sequelae, no matter whether the intoxication be acute or chronic. We are much more apt to have multiple neuritis following diphtheria, scarlatina and typhoid, than we are the lighter infections observed in the more mild and evanescent exanthemata. This is undoubtedly due to the fact that in the former diseases the nervous system is more persistently saturated with chemical poisons generated or incited by the microorganisms which have invaded the body. In other words, it seems apparent that the causative agents of these more grave disorders produce toxins in greater abundance, and that said toxins are more freely distributed throughout the body by way of the circulatory system and lymphatics.

Among other forms of multiple neuritis the alcoholic type has possibly afforded the greatest opportunity for clinical study, since the charity hospitals in our large cities have heretofore always harbored a large contingent of liquor-saturated human derelicts. In 1887, Korsakoff<sup>1</sup> described a form of mental disturbance which he found to be a very frequent complication or symptom, of alcoholic multiple neuritis. This psychosis presents as its outstanding features a defect in immediate memory, retroactive amnesia and fabrication, with almost normal retention of past memory. At the present time the literature teems with case reports confirming his observations.

Since the advent of the automobile, and the more extensive use of coal gas, quite a few cases of Korsakoff's psychosis have been reported as occurring in the carbon monoxid neuritides, and it has been observed that the defect in immediate memory in these cases has been very marked and prolonged—so prolonged, in fact, that it is thought that in many instances it is permanent. It was not until I had the opportunity to observe the clinical course in the case of Mrs. B. W. T., whose history subsequently appears in this report as Case 1, that I knew that the Korsakoff syndrome might appear in the multiple neuritides having their etiologic origin in the other forms of toxemia.

It will be of interest to note that in a very ex-



tensive and detailed contribution to this subject by Von Hösslin<sup>2</sup> the statement is made that the Korsakoff syndrome is reported as having been observed in the multiple neuritis following toxemia of pregnancy, long before Korsakoff placed his syndrome before the scientific world. In addition to this, the same contributor states that *pro rata*, the incidence of this psychosis is much more frequent in the neuritides following gestational toxemia than in alcoholic neuritis. (The same old story—"There is nothing new under the sun.") Von Hösslin is further responsible for the following reliable conclusions pertaining to this subject:—that there is a form of multiple neuritis which takes its origin in the toxemia of pregnancy which is wholly independent of any infection; that this malady may have its onset either before or after delivery; that when recognized, therapeutic abortion should be resorted to; that the termination of pregnancy hastens recovery; that convalescence is protracted, it having been four years before the patellar reflexes returned in one case which came under his observation, and that isolated neuritides may occur in place of the disseminated type, their location being determined frequently by inter-current circumstances, such as slight trauma and stretching of the nerve trunks during the violent physical activities incident to delivery, or as the result of pressure of the fetal head in the mother's pelvis. This rather lengthy reference to Von Hösslin's article is prompted by the fact that as far as I have been able to find, it is the most comprehensive and exhaustive treatise obtainable on this subject.

In making a study of the effect of various toxic substances on the nervous system, it has probably occurred to us all that although their baneful effect most frequently seems to confine itself to the peripheral nerves, it is reasonable to doubt whether this dividing anatomical line can safely be drawn. One has only to ponder upon the protean manifestations of epidemic encephalitis, the various forms of myelitis, and the nervous sequelae of the "Flu," to convince himself that it is far oftener a "happen so" than otherwise, that one nervous structure becomes involved, and another remains intact. At this point the mental disorders which accompany such toxic processes as the one under consideration tend to bridge over the gap, and give us a clinical foundation for the

belief that in many, and possibly in all cases of profound toxemia resulting in multiple neuritis, the central as well as the peripheral nervous structures are involved.

In two of the cases to be subsequently reported, a temporary loss of sphincter control was observed, and while this was attributed at the time to mental clouding, I have never been fully satisfied that this explanation is adequate. Then, too, in Case 2, also to be subsequently reported, the muscular atrophies which were pronounced during the third month of the illness tended to be irregular in their distribution, suggesting a nuclear origin with preponderance of marked tissue reactions in certain spinal segmental areas. Apropos of this phase of the subject, we are indebted to Stuart<sup>8</sup>, who in an article entitled "Puerperal Neuritis and Poliomyelitis," recites the clinical history of a typical fatal case of multiple neuritis originating in the toxemia of pregnancy, in which an autopsy was performed, followed by a complete systematic microscopic study of representative portions of the whole central nervous system. As a result of this investigation, it was found that in addition to the classical changes in the nerve trunks which characterize multiple neuritis, there were also extensive degenerative changes in the posterior and lateral tracts of the cord, and of its ganglionic cells as well, the cells of the anterior horns in the cervical region seeming to have suffered most.

*Case 1.* Mrs. B. W. T. entered the Iowa Methodist Hospital, March 9, 1914, with an admission diagnosis of pernicious vomiting of pregnancy, and the following history was obtained from her attending physician, the husband, and the patient herself:

Female, aged 29 years; married five years; one living child aged two; no previous miscarriages; vomited rather persistently for three months during the first pregnancy.

Family history negative, with the exception that one sister has twice been confined in a sanatorium for a brief period, on account of some mental disorder.

Previous history: At the age of ten, within a period of three months, patient suffered from measles, pneumonia and typhoid fever, but made an uneventful recovery from all; has had a few attacks of tonsillitis; at age of eighteen had a fall which she says produced some uterine prolapse; otherwise, previous history, negative.

Present history: Became pregnant about December 15, 1913; about February 1, 1914, began to suffer from severe incessant vomiting which continued for approximately six weeks, during the first month of which she was cared for in her home by her family physician.

On admission to the Hospital, March 9, the attending physician on whose service she was admitted, made the following clinical notes: "has been vomiting on an average of ten times a day, more in the morning but also has severe attacks late in the evening; some blood has recently been observed in the vomitus; yesterday had some abdominal pain and a slight bloody vaginal discharge; thinks she has lost twenty pounds in weight since the beginning of illness; patient brought to hospital on cot; very weak; pulse 116; temp. 99; resp. 24; tongue moist and clean; cranial nerves negative; thyroid gland normal; heart and lungs negative; abdomen retracted; uterus enlarged and palpable; extremities normal. March 13, after restriction of food, and enemata containing large doses of bromide, the vomiting has been much relieved; uterine pains have increased and the hemorrhagic vaginal discharge has become more profuse; therapeutic abortion deemed necessary; March 13, uterus emptied; patient in critical state for several hours following operation; required considerable stimulation; now much improved; no vomiting." After the last notation, patient gradually improved, grew somewhat stronger, and up to April 1, it was thought that convalescence had been thoroughly established. A clinical notation dated April 1 indicates an unexplainable attack of vomiting, necessitating restriction of food. A pelvic examination at this time revealed no abnormality, and it was thought that patient was developing a neurosis. At this stage of the illness, urine analyses were negative, but a blood count revealed a mild degree of secondary anemia. Shortly after this, Mrs. T. noticed that her lower extremities felt very heavy, that they tingled and were painful. This rapidly increased until the numbness was very pronounced. The power of voluntary movement was lost in the lower extremities and the pain became very severe. Within a few hours the same sequence of symptoms developed in the upper extremities and it was only a short time until voluntary movement was impossible in all four extremities. About this time there occurred a very marked diminution in visual acuity. When the multiple neuritic symptoms became well established, it was noted that some mental confusion developed, the most remarkable feature of which was a loss of memory for recent events. There was no distinct tendency to fabrication, but the memory defect was identical with that observed in cases of alcoholic neuritis or carbon monoxid poisoning. At one time patient thought that the noises in the hospital were the result of a reception being held.

At the time when I was permitted to see the patient, the multiple neuritis syndrome had been established for about two weeks. I found her very dull and apathetic. She responded to questions fairly well, but could not remember events which had transpired ten or fifteen minutes before. There was a marked flaccid paralysis of all four extremities; the deep reflexes were abolished; the nerve trunks were very sensitive to pressure, and the peripheral portions of

the extremities were anesthetic and analgesic. The muscles of the extremities, and some of the trunk muscles were atrophic. The pupils responded normally to light and distance. At this time a loss of sphincter control tended to confuse the diagnosis, but it was subsequently determined that the incontinence of bladder and bowel was due to her cloudy mental state, and not to spinal cord involvement. A blood Wassermann made at this time was entirely negative. After suffering for over a month from the neuritic symptoms, during which time the stomach and eye symptoms completely cleared up, Mrs. T was discharged from the hospital, and returned to her home. The subsequent history pertaining to her convalescence I have recently obtained from the patient herself. She makes the following statement: "My hands and upper extremities improved first; the sensibility came back first, then the muscular action began to improve, but it was late in August, 1914, before I could hold my hands on a level with my forearms (on account of wrist drop); I was unable to get about on my feet until February, 1915; the return of sensibility here as in the upper extremities preceded that of motion; one thing which delayed walking was the fact that my legs and thighs had become drawn up during the period of their disability, and it took considerable massaging and manipulation to get my knees straightened out; my memory had pretty much returned by the time I began to walk, but even now (December 5, 1920) it is a little bad for recent events." At the time Mrs. T. gave me the history of her convalescence, I made a brief neurological examination for the purpose of ruling out any cord disease, such as tabes, and the only abnormalities I could detect were a slight weakness in the anterior tibial group of muscles, absence of the achilles jerks, and a little tendency to steppage gait. The pupils were prompt to light and distance, and there were no indications of any nervous trouble that could not well be explained by her previous attack of multiple toxic neuritis.

*Case 2.* Mrs. H. P., female, aged 26 years, married five years; no living children; husband living and well.

Family history negative, except that the mother of the patient is somewhat neurotic, and vomited a great deal throughout her pregnancies.

Previous history, negative.

Sometime in July, 1916, patient became pregnant; at about the end of the sixth week began to be very nauseated and vomited frequently; vomiting rapidly increased in severity and reached its acme about the middle of October; every effort to control the trouble seemed to be fruitless; on November 1 it was decided that a therapeutic abortion was advisable, and this procedure was resorted to at once; patient states that she has no recollection of entering the hospital three days prior to the abortion; within a very short time after the uterus was emptied, probably a matter of two or three days, a marked weakness developed in the lower extremities; little pain was complained of, aside from

what the patient designated as cramps in her legs; at the time when the lower extremities became disabled, there were a few occasions on which the bladder and bowel were evacuated involuntarily.

On November 19, I was permitted to see Mrs. P. in consultation with her family physician, and the following observations were made and noted: Patient is in fair state of nutrition; pulse 110; temp. 99.4; resp. 24; heart and lungs negative; pupils prompt to light and in accommodation; abdomen and pelvis negative; ocular fundi negative; hearing normal; speech normal; complains of some dimness of vision; facial movements normal, as is facial sensibility; tongue protrudes straight; palate normal; olfactory and gustatory functions normal. There is a marked flaccid paralysis of both lower extremities, with bilateral absence of both patellar and achilles reflexes. There is a slight bilateral and symmetrical diminution of sensibility to pin prick and cotton wool, most marked in the feet and gradually shading off into normal as the knees are approached. The posterior tibial and sciatic nerve trunks are hypersensitive to pressure. Plantar reflexes normal; the lower extremities exhibit hyperhidrosis; there is some weakness and clumsiness of the upper extremities with a slight suggestion of paresthesia.

The patient's mental state is of great interest. She is somewhat confused at times, highly emotional, and her memory for immediate happenings is extremely poor. She does not remember from one moment to another what has happened. She is disoriented as to time, but not as to person or place. There is no distinct tendency to fabrication, although her confusion as to the lapse of time occasionally causes her to make misstatements. A urine analysis reveals a faint trace of albumin with a few hyalin casts but is otherwise negative. After having examined Mrs. T. a short time previously, it was not at all difficult to arrive at a diagnosis in this case. I was particularly interested to note the same memory defect occurring in both cases.

In January, 1917, I made a trip to the home of Mrs. P. and made a second examination, with a view to determining the progress or degree of improvement which she had made, and I here present the following memorandum: Mrs. P. presents no abnormalities of the cranial nerves; she has full control of the upper extremities, and there are no sensory changes to be made out, save for a little hyperesthesia of the cutaneous surfaces of both feet. She is now able to flex both thighs on the abdomen, can move both feet and all the toes quite freely, but cannot extend the legs on the thighs. Dorsal flexion of the feet is still accomplished with great difficulty. The muscles of the lower extremities are uniformly and markedly atrophic, and there is even some atrophy in the lumbar muscles. The nerve trunks in the thighs and legs are still very sensitive to pressure. The sphincters have been under complete control since the time of my first examination. The memory defect has almost disap-

peared, though there is still some difficulty in remembering recent happenings.

In a recent letter from Mrs. P. in answer to one of inquiry sent her before starting to complete this report, she states that she was unable to be about and use her lower extremities until June, 1917, seven months after the onset of her illness, and she states that her memory was very noticeably impaired for a year after the initiation of her illness, and is, she thinks, still somewhat defective.

In this case, as in the previous one, a diagnosis of multiple neuritis with memory defect, following toxemia of pregnancy, was, I think, wholly justified, and in this case as in the former, there was at no time any convincing evidence of puerperal or gestational infection.

*Case 3.* Mrs. E. K. E., formerly a nurse, became pregnant some time in August or September, 1918. During the second month of gestation she developed hyperemesis which reached its greatest severity during the third month, at which time her attending physician considered the advisability of terminating the pregnancy. Being exceedingly desirous of giving birth to a living child, she herself determined to brave the dangers and attempt to continue to full term. During the fourth month of the pregnancy, the vomiting became less severe, but about this time she suffered from an attack of the "Flu," which contributed greatly to her exhaustion. Very shortly after her recovery from the "Flu," in association with a residuum of the vomiting, she developed, rather abruptly, a symmetrical, flaccid paralysis in all four extremities, accompanied by extreme pain, and acute sensitiveness of the nerve trunks. While these symptoms were manifest in the upper extremities, they were much more aggravated in the lower, and the peripheral portions were more involved than the proximal. There was some blurring of vision, slight diplopia, mild delirium, loss of immediate memory, but no tendency to fabrication.

I was permitted to examine this patient at the beginning of the seventh month of gestation. The essential features of the examination were as follows: temperature 99 4/5; pulse 120; blood pressure, systolic 110, diastolic 80; heart negative, with the exception of a very faint first sound at the apex; abdomen enlarged, the uterus easily palpable, with its fundus extending to a point two inches above the umbilicus; there was no evidence of involvement of the cranial nerves, save for unequal, slightly irregular, fixed pupils, which were unresponsive both to light and in accommodation; there was a marked weakness of the musculature of the upper extremities, which was perhaps more marked in the extensors of the wrists; sensibility to cotton wool and pin prick was diminished in the hands; the deep reflexes in both upper extremities were present, but diminished; there was slight atrophy of the small muscles of the hands; in the lower extremities a like condition was revealed, only in a more marked degree, the anesthesia and



analgesia being very pronounced in the feet; there was great muscular weakness with foot drop; the posterior, tibial nerves were exceedingly hyperesthetic to pressure and a moderate degree of muscular atrophy was noticeable; the patellar and achilles jerks were absent and complaint was made of subjective, deep seated, aching leg pain. The patient's most characteristic mental abnormality was a diminished immediate memory; in this case, this feature was not so pronounced, but was sufficiently so, to be readily observed on examination, and to attract the attention of her relatives and bedside companions. A blood count was not made; the urine was at no time of diagnostic interest, though on one or two occasions it contained a slight trace of albumin, with a few casts; the blood Wassermann was entirely negative.

Aside from confirming the diagnosis of the family physician, the principal reason for my having been called in consultation was to determine the advisability of terminating the pregnancy, or allowing the patient to go to full term. Inasmuch as I did not see her until the seventh month of pregnancy, at which time the vomiting had ceased and all the symptoms of the neuritis were receding, and inasmuch as we felt that delivery at full term would not be attended with much more strain than at seven months, we felt that the chances were about equal, whichever course was taken. We therefore allowed the patient to cast the deciding vote and permitted her to proceed without premature delivery. On March 28, 1919, some time during the eighth month of gestation, she was delivered of a slightly premature child, and died twenty-four hours later. I have been unable to gain any satisfactory information as to the exact cause of death, and am obliged to assume that it was the result of either heart failure or exhaustion.

The points of greatest interest in this case are:

1. The multiple neuritis with memory defect.
2. The fact that she had apparently weathered the storm of gestational toxemia, and an attack of "Flu" as well.
3. That premature delivery did not take place until the eighth month of the gestational period.

*Case 4.* Mrs. E. W., aged 36 years, married fifteen years. Three previous pregnancies which went to full term; considerable vomiting in the early months of each.

Family history negative.

Previous history: The patient had one attack, of a psychoneurotic character, at the age of thirty, which lasted three and one half months. Otherwise, previous history negative.

The pregnancy which seems to have been the exciting factor of the present illness is thought to have begun June 6, 1920. About June 28 patient began to suffer from hyperemesis which increased in severity, reaching its acme about July 15. She was unable to retain anything except a very small amount of nourish-

ment, up to the time of therapeutic abortion, which was resorted to August 21, 1920. There was a slight elevation of temperature for a few days subsequent to the curettage, the highest point reached being 102° F. There were, however, no other indications of sepsis. On or about September 1, 1920, patient became disoriented—thought she was in some place other than her home; complained of pain in her lower extremities, especially in the posterior tibial region; within an hour after eating would forget the articles which composed the meal; was also disoriented as to time—could not remember persons who had been in to see her, a half hour after they had made their visits, but her memory for past events seemed to be perfectly normal.

At the time of my examination, which was incident to a consultation with the attending physician, on October 19, 1920, I had occasion to verify the mental peculiarities just given. In addition, I found the cranial nerves to be normal; heart and lungs negative; pulse 110; temperature 99.8; the movements and sensibility of the upper extremities normal; marked weakness of the muscles in the lower extremities, especially from the knees down; subjective and objective anesthesia most pronounced in the feet, shading off into normal in the vicinity of the knees; extreme tenderness of the calf muscles and pronounced hyperesthesia of the posterior tibial nerves on pressure. Owing to a lack of facilities, a blood count was not made. The urine analysis made by the attending physician just prior to my examination revealed no abnormalities, save a slight trace of albumin.

Basing my opinion upon the clinical history and its sequence of events, together with the unquestionable evidence of neuritis in the lower extremities, and the characteristic mental disturbance, the diagnosis of puerperal multiple neuritis accompanied by a Korsakoff's psychosis, was made. In a communication received from her family physician, dated January 12, 1921, he states that all mental symptoms seemed to have passed away by November 20, 1920, and the patient was able to walk with assistance December 1, 1920. Her memory at the present time seems to be perfectly normal, but there still remains in the lower extremities some atrophy and reduction of muscular power.

For the sake of clarity, it may be well to emphasize the outstanding features in the foregoing case reports. In all four cases there existed in the early months of pregnancy hyperemesis. In cases 1 and 4, therapeutic abortion was performed at the end of the third month, and in case 2 during the fourth month. In case 3 the patient went to the eighth month and was delivered spontaneously. In cases 1, 2 and 4, although there was abundance of evidence of profound toxemia before abortion, the symptoms of neuritis did



not occur until a short time after the uterus was emptied. In case 3 the patient struggled through the state of hyperemesis and just prior to spontaneous delivery during the eighth month, seemed to be recovering from her neuritis. In all four cases the clinical evidences of multiple neuritis were sufficiently classical to place the diagnosis beyond reasonable doubt. Cases 1 and 2, because of temporary sphincter incontinence, suggested the possibility of spinal cord involvement, and in case 2 the irregular distribution of the muscular atrophies much more strongly suggested cord disease. In all the cases a loss of recent memory and unreliability of statement were very pronounced symptoms. In case 2 retroactive amnesia was a prominent feature. In case 3 death occurred after delivery, while in case 4 sufficient time has not yet elapsed to make a report possible. She is, however, convalescent. In cases 1 and 2 both patients feel that they have never fully regained their original powers of immediate memory, seven and five years respectively, after the onset of their illnesses. Mrs. T. (case 1) still has absence of the patellar reflexes and a slight tendency to foot drop.

In conclusion I wish to emphasize the following salient clinical facts:

1. That toxic multiple neuritis is a frequent sequel to hyperemesis gravidarum.
2. That multiple neuritis may develop during gestation or in the puerperium without any dependable evidence of underlying infection.
3. That a mild psychosis of the Korsakoff type is very prone to occur in this type of multiple neuritis.
4. That therapeutic abortion is perhaps too long deferred in many cases of hyperemesis and is the best remedial measure, and is the most sure means of preventing multiple neuritis.
5. That the Korsakoff psychosis was recognized as a very common accompaniment of multiple neuritis following hyperemesis gravidarum, long before Korsakoff affixed his name to the same syndrome which he observed in alcoholic neuritis.

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## PRESIDENT'S ADDRESS\*

C. E. EISELE, M. D.  
EAST ST. LOUIS, ILL.

A year ago today we met in the beautiful little city of Carbondale, Ill. They treated us as true sons and daughters of Southern Illinois only can. They gave us the use of their school auditorium for our public meeting and the Elk's Club for our scientific. The ladies of the city furnished us a wonderful banquet. The city of Belleville has done all this and went them one better by not only giving us the keys to the city but I understand they have insisted that our Secretary carry the keys to the jail. Why they have insisted on his taking possession of these particular keys I do not know unless they wish us to be perfectly at home. And I believe they are right as the doctor gets most every place while making his rounds of professional duty. The rich home and the poor home come under his observation while practicing his profession. We should at least feel safe while these keys jingle in Dr. Capel's, our worthy secretary's pocket. So kind friends in case you should need these keys during our stay in this city, our congenial secretary, I am sure will accommodate you with them.

The Southern Illinois Medical Association meets every year to take up the topics that are most interesting to the medical profession and also to hold a public meeting so that the people and the medical profession can get better acquainted. This organization has been doing this for 47 years. In the 47 years there has not been a meeting that has not terminated successfully. The doctor continuously strives to be of service to you in sickness and in health. The doctors are one of the first to try and have such laws as are detrimental to the public health defeated. When a law is one that protects public health he uses all his power to try and make our legislature see that it is best to pass such a law. He is not always successful but the reason he is not successful at such a time is because the public does not take a hand. If we can get the hearty co-operation of the people of the state there would not be any law detrimental to public health. All public health laws would be for our benefit. The housing conditions of our working men would be better. Our sanitary conditions throughout the state would also be improved. So, kind

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friends, when you hear your family physician speak of public health laws help him bring pressure to bear on those who are most willing but do not always know what is best to do. Many times it is said the doctor wishes such laws passed for his own benefit but that is far from the truth. What business or professional man will send delegates to their capitol to help enact laws that are destructive to their finances. The quarantine laws have been backed by the medical profession not because they are for the benefit of the physician. They are for the people, their friends and patients. Who has to shoulder the burden of these quarantine laws? The patient blames the physician for his isolation even though they know this is the only means by which we can control epidemics. They do not seem to realize that doctors would be richer many times financially if they did not help enforce these laws. For if there were no such laws the doctor would not treat only one patient but probably a dozen or more. A true physician does not cure disease but prevents the contamination of others.

Vaccination is not compulsory but we realize it is the only prevention against smallpox we have. Dr. Lee K. Frankel of the Metropolitan Life Insurance Company, whose duty is to advise this Company what risks are good and what are not, says: "All the scientific information which we have is clear on the fact that vaccination prevents smallpox; that it is the only method of preventing the disease and that if properly conducted it is a thoroughly safe prophylactic measure." When a man in his position takes such a stand in regard to vaccination it should carry some weight. Do you notice all large insurance companies today have a question asking whether you have been vaccinated or not? They know if you have they are not going to pay your relatives for your death from smallpox. It is safety first with them and strictly business. If it is safety first and strictly business with them, as you also have your life at stake it should be an important matter that yourself and loved ones are protected. Many times you have heard the little story of some one who has lost an arm from vaccination. I have seen arms that were swollen and vaccination wounds that were infected from carelessness. I have never been able to trace these stories and find a person who has been so unfortunate as to lose an arm. I have talked to

many of my colleagues but none of them have any personal knowledge as to the identity of such an unfortunate person. The stories, I thoroughly believe, are only spread by some careless people who do not wish to be vaccinated. It does not make any difference what part of the body you vaccinate. With prevailing styles the girls are becoming more opposed to vaccination. Not that they fear vaccination. They do not know where to hide the scar. Your family physician knowing more about yourself than you do will help you in this matter. I think a good vaccination scar should be considered a beauty mark, for it is an indication that you will not be contaminated from this beauty destroyer and loathsome disease. Whole villages, before we knew how to prevent smallpox by vaccination, were wiped out. I have never seen a case of smallpox where a patient had a good vaccination scar. The late Sir William Osler says this of the Anti-vaccinationists: "There is a group of individuals in every community of that particular order of mind which renders them incapable of sane judgment and who seek in every way to oppose vaccination, not only for themselves but also for others."

Before vaccination in England 7 to 9 of all deaths were due to smallpox. Glasgow, Scotland, has recently had 500 cases of smallpox with 100 deaths. In some sections of our country smallpox is increasing. If all the people were vaccinated this would not be true. But here are the facts for the past five years:

	1916	1920	Increase
California .....	243	4502	4260
Indiana .....	1158	6785	5627
Ohio .....	1912	7228	5307
Michigan .....	1365	4848	3483
Minnesota .....	1270	5447	4177
Illinois .....	3385	8586	5151

Anti-vaccination amendments were defeated in California and in Oregon last fall. Over 350,000 votes were cast favorable in California alone.

Diphtheria anti-toxin is being distributed by our state health department, by so doing it gives the poor child as well as the rich child a chance of recovery from this disease. Without the anti-toxin the mortality was about 90 per cent. With the use of this wonderful remedy the mortality has dropped to 5 per cent. Still some people are opposed to this remedy. The mule and his father do not believe in the veterinary surgeon. They kick and he-haw when he tries to help them. They

are also very much opposed to any remedy he may use, whether it is anti-toxin or some mild ointment or giving him such a mild dose as a quart of castor oil by mouth, but he cures them just the same. So you do not have to believe or have confidence in some things. They work for you whether you wish or not. In the case of the mule and his father you can use force but with a human being it is rather a strenuous ordeal sometimes to get hard-headed mothers and fathers to give you a chance to use this wonderful remedy that cure diphtheria. And if given early in the disease it is most positive of good results.

In the state of Illinois from July 16 to August 15, 1921, inclusive, there were 195 deaths from measles, scarlet fever, whooping cough and diphtheria, diphtheria leading with 98. Whooping cough, which many think a mild disease, was second with 50 deaths, as many dying as with measles and scarlet fever combined.

August 16 to September 15, 1921, there were 163 deaths from measles, scarlet fever, whooping cough and diphtheria, diphtheria leading with 86, whooping cough second with 40. Again more dying in a given time than measles and scarlet fever combined. I am not trying to frighten you but to give you facts as to the real seriousness of whooping cough. Every one is frightened when it is pronounced the patient has typhoid fever.

From July 16 to August 15, 1921, there were 17 more deaths from whooping cough than from typhoid. From August 16 to September 15, 1921, there were 3 more deaths from whooping cough than from typhoid. Again you see whooping cough more serious than the dreaded typhoid.

Do you know that the city doctor is rarely called to treat a typhoid patient. Where there is pure water supply and a good drainage system there is no typhoid with a local origin. There is more typhoid in small towns and in the country. There are few typhoid cases in the city. I do not mean the small towns and the country can not prevent this. The fact remains they do not. If the farmer and the small city fathers should follow the local physician's advice where to place out-houses and barns and how to drain their places I am sure we could wipe typhoid from the earth. When in small towns and in the country be sure to boil all drinking water and milk. As most of our milk comes

from the country it is safer to boil it all times.

There are 2,752 separate and distinct health jurisdictions in Illinois. Not more than 400 have medical health officers. Just think, 2,352 health officers in the state of Illinois who know nothing or very little of what is necessary to prevent disease. No wonder there are epidemics in such localities. And is it any wonder that they let people come to other towns and convey the disease there also? There should be a medical man in each community to enforce quarantine laws. He is the only one that seems to know the true conditions and when, where and how to enforce these.

As Honorable James A. Reed sees Senate Bill 1039, known as the Child Welfare Bill, it is a wonder, and mothers, this bill ought to interest you. It seems a lot of old maids at Washington, not having any babies of their own or husbands either, feel justified in backing up a law by which they can replace the mothers of our country. They would have every pregnant woman forced to register. I suppose some old maid stenographer would be employed for this. Governmental prenatal examination of expecting mothers would be compulsory! When expectant mothers hesitate to be examined by the family physician who brought her into the world and perhaps her own babies. They wish to interfere with the right of a woman to secure the service of a midwife or physician of her own selection. It contemplates the inspection of the mother before child birth and the intermeddling by officials in the care a mother may give her offspring.

According to the opinion of these reformers and theorists, no housewife can cook a meal properly unless instructed by them. Mothers are incapable of properly bearing until they have had at least a few lessons from women who have never given birth to a child.

Before this band of devoted spinsters who do not have babies, assayed the task of teaching women who do have babies how to raise babies, billions of babies were born and managed somehow to survive with no other help than the care of a loving mother and the attention of "the old family doctor." Ever since Eve first hugged Cain to her breast women have known how to feed a baby, what to feed a baby and when to feed a baby. The mother of today has sense enough to know in general what her baby needs.



When she is in doubt she resorts to the assistance of her husband, the counsel of some good old mother and the advice of the family doctor.

Common sense is, after all, the best guide. The people living according to the rules of common sense, have reared all the races of men who have ever passed across this earth. It is now proposed to turn the control of the mothers of the land over to a few single ladies holding government jobs at Washington. I question whether one out of ten of these delightful reformers would make a bowl of buttermilk gruel that would not give a baby the colic in five minutes. We would better reverse the proposition and provide for a committee of mothers to take charge of the old maids and teach them how to acquire a husband and have babies of their own.

### ORIGIN OF TRACHEO-BRONCHIAL INFLAMMATIONS.\*

J. NIESS, M. D.

CARM, ILL.

Tracheo-bronchial inflammations originate mainly if not all from metastatic infections, from inhaling of agents that are infectious and mechanical or chemical irritants, and from chilling of the surface of the body.

Metastatic infections of the path of the bronchi offer the basic problems of susceptibility and immunity common to infection elsewhere in the body. When we consider the violent inflammatory processes which attend inhaling of some irritating chemical substance, and the accessibility of the entire air passage to infectious agents and inorganic substances, we marvel at the severity of the inflammation which is carried in some instances and the immunity which apparently exists toward other invading substances that are carried into the remotest air passages by the ventilating air. Why pneumokoniosis is not a much more common affection than we find it to be is unexplained, and why bacterial inhabitants of the mouth and pharynx which have an aphytic existence in these locations, become virulent pathogenic organisms in the lower air passages, also is in want of a satisfactory explanation. We know that the normal respiratory membrane enjoys a certain protective function against invading organisms, but just what happens when this immunity is lost is

one of the unsolved problems. The defense of the upper air passages against infection has been amply demonstrated in bacteriological studies of the nasal and pharyngeal mucus after bacteria had been sown upon mucus membranes. All the bacteriological studies show that the mucous secretions offer a formidable defense against the local invasion of bacteria. The course of the inspired air through the nasal passages, the angulation of the pharynx, the stenosis of the glottis, and then again the short angulation at the bronchation of the bronchi and the branching of the bronchi give excellent opportunity for the mucosa to capture organisms and foreign materials which are carried in with the inspired air.

The defensive element in the anatomical structure just referred to consists in the friction of the inhaled air against the mucous surface which results from reflection of air currents by intercepting surfaces, as in the nose and larynx and by change of direction as in the naso-pharynx and at the bifurcation of the trachea and further branching of the bronchi. In spite of this protection which experimental infection shows is more effective than one might expect, we have not in the mechanical protection of the mucous lining of the air passage an infallible guard against invasion of the remote air passages by a great variety of organic and inorganic material suspended in the respired air. The total area of the mucosa of the tracheo-bronchial path leading up to the respiratory units is very small compared with the total area of the true respiratory membrane but so far as defense against invasion is concerned investigation shows this function to be confined to the bronchial path. It is along the bronchi that lymphatics abound. There are no lymphatics about the air cells and the alveolar epithelia do not possess any phagocytic property. In medical practice we see a differentiation and association between bronchitis and air cell infection which is analogous to the relation between lymphangitis of an extremity and the infection of the blood stream.

Bronchitis is the most common disease of the air passages. The arrangement of the lymph vessels and the defense of the bronchial mucus account for the more frequent occurrence of the disease of the bronchi when we consider air borne invading agents. But when interval disturbances are considered we find no adequate explanation for varying and differentiation vulnerability that

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exists in the air cells and in the bronchial tract. Chilling the surface of the body is attended by prompt hyperemia of the Schneiderian membrane. Whether this hyperemia is a response to purely nervous agents or results from activation of some substance by chilling of the blood with increased susceptibility to blood infection, this does not seem applicable to bronchitis which is the result of exposure to cold. In the case of susceptibility to blood infection we are dealing with a lowered temperature of the entire mass of circulating blood. In the case of bronchitis from cold we are dealing with a response to chilling of a small portion of blood. It is possible that a small portion of the total circulating blood may be chilled and as a consequence give rise to some activating agent which will cause hyperemia and edema of the tracheo-bronchial mucosa. The problem that remains to be solved is whether this local response to chilling of a portion of the body's blood is due purely to activation of some chemical substance in the chilled portion of blood or whether there may be in addition to this activated substance an exaltation of the virulence of bacteria which are constantly invading the tracheo-bronchial mucosa.

The bacteriology of the tracheo-bronchial process is extremely difficult to interpret. It is difficult to know with certainty what organisms have merely a saprophytic part and what ones play an etiological role in bronchial disease. The significance of the presence of bacteria in the air passages is much in doubt with the exception of a very few bacteria such as the tubercle bacillus, spirocheta pallida and possibly the spirocheta, which produces and has been described and interpreted by Castellain in a certain form of hemorrhagic bronchitis. When we are dealing with organisms which are normally found in the buccal cavity and nasal cavity, we are quite at a loss to interpret their exact role in the causation of bronchitis. Whether their causation is due to presence of a chemical substance in the blood or to symbiosis with some other organism is an unanswered question. Causes of bronchitis due to specific infections as tuberculosis, syphilis, etc., are well known.

I wish now to say just a few words in reference to non-specific tracheo-bronchitis. Non-specific tracheo-bronchitis is a clinical entity which remains differentiated from pneumonitis

quite as clearly as cellulitis or lymphangitis of an extremity may remain a local disease. Lymphangitis may remain a local disease or may be attended with any grade of systemic invasions. The affection may begin and persist for varying periods as a localized bronchial inflammation. Systemic reactions and systemic bacterial invasions may accompany the disease while the inflammation is localized in the bronchi, where the disease frequently remains for its whole duration. Pleurisy is a common accompaniment of bronchitis when the air cells are not invaded. The anatomical distribution of the lymphatics may be responsible for this. The bronchial tree and pleura are supplied with lymph vessels, but none have been demonstrated in the walls of air cells or respiratory units. That part of the lining which contains the respiratory membrane has no lymph vessels, whereas the pleura and that part which includes the dead space of the respiratory path are richly supplied with lymph channels. The clinical differentiation between lymphatic infection and endovascular infection strongly suggests the clinical differentiation between bronchitis and pneumonitis.

Progress toward the conception of pneumonia as primarily a blood infection is much like the progress of former years from the idea of typhoid fever as an intestinal infection to the idea of a primary blood infection. Cytological and bacteriological evidence has thus far not contributed to clinical differentiation of these diseases of the respiratory tract. Nosological symptoms and physical signs from the involved organs do afford many evidences for determining when the disease is confined to the dead space and when the true respiratory area is involved.

There is a large number of cases in clinical practice whose pathogeny remains obscure. They are still classified under the general term of bronchitis because the bacteria found in the secretions fail to satisfy bacteriological criticism. It is impossible to determine in a large proportion of bronchitides when a given organism plays a saprophytic or a pathological role. The bronchial mucosa it seems may be swollen and its secretions much increased from hyperemia due to the presence of some noxious chemical content of the blood as in gout or the hyperemia may follow chilling of the body surface. Even in these cases bacteria come into the field either as saprophytes or as pathogenic organisms.

THE DIFFERENTIAL DIAGNOSIS OF  
ABDOMINAL PAIN.\*

C. S. SALMON, M.D.

CHICAGO

I cannot help but feel that if we honestly examine and confess our experiences, we would acknowledge that we often open the abdomen, and fail to find exactly what we expected. Disease considered anatomically and physiologically is an aberrant exhibition of normal structure and functional changes; and its symptoms differ as widely in two individuals as their natural external characteristics. The difficulties of diagnosis depend therefore on natural causes. Another difficulty is the similarity of symptoms produced by different diseases.

In the light of these truisms, to discuss the differential significance of abdominal pain is from a practical standpoint unsatisfactory. Why abdominal pain? We know from actual experience that aside from peritoneum and mesentery, we may squeeze, pinch, cut or burn any of the normal abdominal viscera, without eliciting much discomfort. But if a pathological process were to intervene we immediately get a variety of painful manifestations that is only limited by the ability of the patient to express himself.

We are led to the generally accepted theory that the abdominal viscera have specific nerve endings which when unduly stimulated by disease respond by pain sensation. That furthermore, the pain impulses if severe enough when received in the cord by the sympathetic route set up an irritation of adjacent nerve cells in the cord, and pain impulses are sent to the brain which manifest themselves as adjacent or referred pain. Accepting this as a working theory, promulgated by Henry Head, we can readily understand why pain in the shoulder, arm or even finger may be due to gall bladder disease. Why epigastric discomfort may be due to chronic appendicitis, or a painful testicle in kidney colic.

*A Symptom:* Common to most pathological conditions in the abdomen, and to some conditions outside the abdomen. The *symptom* which you are most often called upon to treat, and as is often the case, the only symptom. A symptom for which you must depend on the patient to describe to you and the telling of which is of

course subject to the temperament, social conditions, and his command of English. The expression of the educated woman, "Doctor, I have a periodic attack of distress in the pit of the stomach," means differently to you than does the Russian-Jewess "Der boch tudt mir vey," or, the word "Bolly" with vague movements of the hands in the region of the abdomen with which the Slav greets you.

In consideration of this symptom of pain one has to determine whether there is an actual pathology in the abdomen, whether the symptom is referred to the abdomen from a lung, plura, rib, angina or caries of the spine; or whether it is a dyscrasia of tabes, chronic lead poisoning, hyperthyroidism, anemia, uremia, or simply a manifestation of hysteria.

There is hardly a disease in the category of medicine that may not manifest itself by gastrointestinal symptoms and incidentally pain. Look through any text-book on medicine, and you will see with astonishing frequency reference to abdominal pain. Have you ever mistaken an appendicitis for scarlet fever? Well, I have, and it was only because of the objections of the parents that I decided to wait until morning, when the true nature of the disease became evident, or of a prominent internist who knew, his patient did not have appendicitis and was patiently waiting for a Widal while the patient was succumbing to a diphtheric toxemia, or the meningitis that I recall which was being treated for ptomaine poisoning.

In further consideration of this symptom, we should determine its location, its character, and its modifying factors. Most acute abdominal conditions manifest themselves by diffuse pain and shortly thereafter localize themselves into one or another region. In this connection we are materially assisted by the symptom of tenderness, which when elicited localizes the diagnosis to particular organs in that region.

As regards character of pain, a complaint may vary from a moderate discomfort to the most agonizing manifestation of disturbance, and may be defined as boring, cutting, burning or gripping. The colic which consists of accentuated peaks of pain lasting from several seconds to a few minutes followed by valleys of remissions nearly always denotes involvement of hollow viscus. The green apple colic may simulate the most extreme

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acute surgical belly, and the obstruction of a carcinomatous bowel may be passed off as a chronic constipation.

*The Diversion of Attention*—Suggestion: By concentrating the patient's attention to the splenic region or the pelvis, the neurasthenic will frequently forget her tenderness at McBurney's point. A satisfactory defecation or passing of gas by relieving pressure of distention is always satisfactory; the taking of food to relieve the hunger pains of peptic ulcer, the change of posture to relieve the dragging of a large liver or spleen or the accentuation of pain when turning to the left in perigastric adhesions to the bile passages may be of determining importance in diagnosis. An extensive discussion of the differential diagnosis of all the possible conditions which produce pain in the belly is not within the scope of this paper, so we will just try to hit the "high spots" as it were and talk about the conditions in which pain is more or less determining factors in the diagnosis.

#### 1. The acute abdominal crisis.

Viewing this condition from the appearance it primarily presents itself to the clinician, we are confronted with a display of acute symptoms which requires first and foremost a correct appreciation of their significance; and only secondly the possible nature of the lesion producing them. Not what has caused the symptoms, but are the symptoms such as to demand operative intervention with the least possible delay.

It must not be understood that I deprecate the employment of every legitimate means to ascertain the cause of the acute seizure. What I am striving first to enforce is, that such measures should not stand in the way of our deciding at the earliest possible moment the performance of an operation. Under this heading we consider:

1. Perforated gastric or duodenal ulcer.
2. Perforating appendicitis.
3. Acute intestinal obstruction.
4. Ruptured extrauterine pregnancy.
5. Acute pancreatitis.

and rarer causes which as a rule present various earlier symptoms that may be sufficiently clear in themselves to suggest what has taken place, as

1. Perforated tuberculous ulceration of intestine.
2. Carcinoma of bowel which has eaten through.

3. A collection of pus in appendix, gall bladder, fallopian tube, ovarian cyst, or uterine fibroid, not to mention other places, which suddenly burst into the peritoneal cavity. When, having considered all possible conditions, we may find on opening the abdomen a mesenteric thrombus or a twisted ovarian pedicle.

The foremost symptom in all of these conditions is pain—prostrating pain, indefinitely localized pain. A pain so sharp, cutting and severe, that if it does not actually make the patient vomit, he is at least nauseated. The physical results are such that he is compelled to desist from whatever he is doing and resort to the recumbent position. The severity of the seizure causes pallor and even beads of perspiration on his forehead.

It is only occasionally that the medical man is called in sufficiently early to see these symptoms in the acute initial stage. But, the story of the onset is sufficient. What we see and elicit will depend largely upon the interval of time that has elapsed since the patient was first taken ill. But, whatever the interval, we are impressed by the general appearance of the patient. That he is ill and presents indications of shock: 1. In gastric ulcer we may be able to elicit that the patient from time to time had suffered from dyspeptic symptoms, or possibly a history of hematemesis. It may further be elicited that just prior to the sudden seizure there has been premonitory indications of gastric disturbances; as flatulence, acid eructations; and we may be told that when the pain started it was definitely felt in a particular spot in the epigastrium. And, when we come to examine the region, we may find a distinct area of increased tenderness.

2. In appendicitis the most distinctive symptom is tenderness over McBurney's point. Perhaps a history of previous attacks.

3. In acute obstruction in the child we look for intussusception; there is usually no pain on palpation but the tumor, slime and blood in the bowel movements; and let me say in this connection, never hesitate to soil your finger by making a rectal examination. In adults, the pain is almost always in the umbilical region and though it eases off in time, it remains varying in constancy and degree. The variations depend on



the seat of the obstructions, whether high or low. The higher the obstruction, the more severe the manifestations. In old age, the symptoms may subside and mislead one into the belief that the obstruction has been relieved. When one comes to examine the patient, we find that the abdomen may be freely palpated, that pressure, rather than causing pain may relieve it.

4. In ruptured ectopic there is marked tenderness to palpation of the lower abdomen in both hypogastric and iliac region and rather acute pain when examined per vagina, when the cervix is suddenly pushed upward. This symptom with evidence of secondary hemorrhage should help to clear the diagnosis.

It is to be borne in mind that we do not absolutely need distinctive symptoms; for in operating we should certainly find the lesion, although we had previously possessed no knowledge of its existence; and to delay operation because we are striving beforehand to locate the cause of the crisis would be a grave miscarriage of our duty in the proper treatment of the case. The possibility of confounding a tabetic crisis, chronic lead poisoning or even an enterospasm with an acute abdominal crisis should not be overlooked, and evidence of these conditions should be looked for.

II. *Peptic ulcer.* Gastric and Duodenal ulcers are fundamentally alike and from the standpoint of pain will be considered together.

There is a great tendency for the clinical manifestations to appear in attacks. The attacks vary in duration from a few days to several weeks or months and there may be complete freedom of distress over long periods of time. The most constant and usually the most important diagnostic evidence is to be derived from an accurate study of subjective sensations of epigastric distress or pain.

The distress varies from a slight uncomfortable sensation described as a fullness or pressure to intense pain. The distress is often attended by a feeling of epigastric oppression, akin to nausea. When pain is present, it is variously described as burning, gnawing, boring, cutting, tearing and cramp-like in character.

In the absence of complications of peptic ulcer, the pain is entirely absent when the stomach is empty, that is, when the stomach contains only the usual secretions of a normal fasting stomach. Clinical distress, according to Sippy, in uncom-

plicated ulcer, is only found when the fluids of the stomach contain an adequate concentration of free H. C. L. If on emptying the stomach only a normal amount of acid is found, it is unlikely to be simple ulcer. Or, if the distress does not subside within a few days under appropriate treatment, look for something besides ulcer.

The distress comes on from one to three hours after eating when free H. C. L. is at its height. It is relieved by eating anything that will dilute and take up the free H. C. L., a cracker, milk or even swallowing saliva when chewing gum may be sufficient to relieve distress. The heavier the meal the later the distress is likely to appear. Distress of ulcer is usually relieved by alkalies, by the use of a stomach tube, and by vomiting. In the great majority of cases of peptic ulcer the distress is located somewhere in the epigastrium, usually limited to a small circumscribed area; irrespective of whether gastric or duodenal. It is usually near the middle line, and even in visceroptosis it is seldom below the umbilicus; rarely extends across epigastrium; sometimes to the back and less often along the oesophagus. When the pain is extreme it may be diffuse. Tenderness to pressure is not a constant symptom. It is usually present when spontaneous pain is at its height, but some patients may obtain relief by steady pressure at the height of distress. Pain along the spine from 7-11 dorsal is not a constant symptom.

When a case does not present this composite picture we should think of complications of ulcer:

A. *Pyloric obstruction:* The pain is modified and prolonged both by the active peristalsis of the stomach trying to overcome the obstruction, and by the prolonged presence of food and secretion in the stomach stimulating the increased secretion of irritating fluids.

B. *Perigastritis, periduodenitis, abscess or adhesions* as well as chronic perforation and hour glass stomachs, cloud the picture to the degree that we don't know whether we are dealing with a stomach lesion or some neighboring organ.

Regarding pain in gastric cancer, Rehfuess sums it well in saying that the conversion of a periodic or typical dyspeptic into a constant one is strongly suggestive of cancer. That when pain sooner or later becomes constant and aggravated by eating, one need hardly wait for a tumor, cachexia or metastasis.

III. *Gall Bladder.* The means of eliciting gall



bladder pains are by palpation and percussion. Tenderness on palpation is generally most pronounced beneath the costal margin at the level of the 9th or 10th costal cartilage. There is present here a point of exquisite tenderness and around this an area which is not quite so painful. In gall bladder disease, if pressure or percussion is applied over any portion of the abdomen the pain is felt in the gall bladder area. This is one method of differentiating from appendicitis.

Murphy has elaborated a technique of differentiating gall bladder tenderness from that due to lesions of other organs.

Having removed all clothing from the neighborhood, place the patient in a sitting posture, bent well forward with hands resting on knees. The examiner stands behind the patient, places hand with palm flat against abdomen, immediately below the rib on the right side. After each expiration the examiner's hand follows the abdominal wall until it approaches closely to the affected organ when suddenly the respiration ceases with a gasp and patient complains of a severe pain. Robson's point is on a line extending from the tip of the 9th costal cartilage to the umbilicus, greatest tenderness one inch to the right of umbilicus.

Radiation of pain may extend to right nipple; backward into shoulder blade and thence into lumbar region. Pressure over an inflamed gall bladder may produce pain in right shoulder; in epigastric region to the right of the median line, and may help to differentiate from duodenum, stomach or kidney. To differentiate from cases of appendicitis it is extremely difficult, especially if appendix is attached high up.

Schmidt's point found in some gall bladders, liver abscess and phrenic inflammations is a sensitive spot along the upper portion of the trapezius muscle three finger breadths from the cranium. The 4th to 12th thoracic vertebrae may be painful.

IV. *Gall Duct Pains.* Gall duct colic is sudden in onset and located in epigastrium. It may be referred to the chest between the 4th and 6th left costal cartilage and resemble angina; though usually confined to the right of the middle line. If adhered to the stomach may be confined to the left.

The colic may follow ingestion of food. It occurs in paroxysms following each other at va-

riable intervals, at first of great severity, then gradually diminishing. Between paroxysms there is a constant dull aching in the gall bladder region. The cessation of pain indicates passage of stone. An attack lasts 1 to 2 hours and ends with nausea or vomit. If the pain loses its spasmodic character and gradually spreads over upper abdomen with epigastric tenderness and abdominal distention we are dealing with an associated peritonitis.

Pain as a factor in cancer of the biliary tract is not pronounced; when present it is dull aching in character.

V. *Pancreas.* Acute diseases of the pancreas are seldom diagnosed.

Fits has formulated the rule, that when a previously healthy person is suddenly seized with violent pains in the epigastrium followed by vomit and collapse, followed in 24 hours by circumscribed swelling in epigastria, one should suspect acute pancreatitis.

Sudden severe paroxysms of pain which begins and continues in the epigastrium with more or less tendency to be felt to the left of the median line and between shoulder blades, the prone position more painful, exquisite tenderness on deep pressure, consider pancreatitis.

VI. *Appendicitis.* The symptoms of appendicitis are now so well known by the laity that one can frequently make a diagnosis over the telephone. The sudden diffuse pain which is soon followed by nausea and vomiting, the early tendency to localize in the right iliac region, the localized point of tenderness and rigidity of the lower rectus, is the classical history.

Appendiceal pain may be divided into, A, obstructive, due to foreign body, kink, constrictions and adhesions. In this connection we may get colic; B, an inflammation which may extend to the ilium or cecum; in this type we may get that rare condition found in appendicitis, diarrhea. If the inflammation extends to the peritoneum the intensity of symptom is increased and we may get exquisite tenderness.

C. *Adhesions.* Either to the abdominal viscera or peritoneum, we get discomfort rather than pain; symptoms are referable to the digestive system. If the adhesions involved the parietal peritoneum we may get exquisite tenderness on pressure.

The special points of tenderness: McBurney's

point  $1\frac{1}{2}$  inches from anterior superior spine on a line from that point to the umbilicus. In general its presence indicates appendiceal involvement.

Morris' Point,  $1\frac{1}{2}$  inches from the umbilicus on the same line found frequently in chronic appendicitis.

In retrocele appendix the pain is in the loin; and if attached high up, its similarity to gall-bladder pain should not be overlooked.

VII. It requires more than pain symptoms to make a diagnosis of a kidney. A severe abdomen pain of unknown etiology, especially when associated with drawing up of the limb, should direct attention to the kidney.

Pain due to the kidney may be felt in the lower iliac region, suprapubic, outer, middle or inner thigh. Pain in the thigh produced by lesions of G. U. tract are above the bladder; while pain in penis, scrotum or perineum indicates involvement of ureter adjacent to bladder.

When in ureteral calculus the pain is felt in this area it is an encouraging sign that the stone is almost in the bladder.

The pain in some cases of perinephritis is referred to the knee or may simulate a diseased hip, especially in abscess formation in region of the lower pole. When upper pole is involved, the intercostals may be vitiated and pain referred over their distribution.

The tenderness elicited by palpation and percussion is most marked over the kidney triangle; this is bounded by the erectorspinal, the 12th rib and internal oblique.

It has been concluded that the pain in calculus is not due to spasm of ureter but to tension of renal capsule due to back pressure.

Bevan reported a case in point; a patient had intense colic previous to nephrotomy but no pain after operation though the stone in ureter was not removed and it passed without pain, and its progress watched with x-ray; that the distention of the ureter has some place in pain production is also evident because when the stone progresses the pain is felt lower down.

At first there is a constant intermittent ache or dragging in the back, then suddenly some day an attack occurs—pain switches around the crest of ilium to the anterior abdominal wall, beneath ribs or iliac region. The attack varies from a few minutes to many hours, usually until the pressure has been relieved, either by the

stone passing, or forced back into pelvis or ureter dilated sufficiently to allow the passage of urine. The advisability of x-raying both kidneys is manifest because of the possibility of the symptom being referred entirely to the sound side.

VIII. The intestinal colic due to some definite error in diet, indigestible or bad food. Some susceptible individuals suffer after whisky, highly spiced food or very cold liquids.

The hypothesis as to cause from Nothnagel: Colic is due to contraction of intestinal muscles producing anemia.

Lennander—Pain is due to pressure of the intestine against parietal peritoneum by tetanically contracted loop of small intestine; and in large bowel by the traction of the mesentery.

Wilms believes it to be due to traction on mesentery.

Behan thinks it is due to distention of intestinal wall; it is a special type of pain conveyed by the sympathetic system.

Take your choice.

Colic is sudden in onset, starts about the umbilicus, radiates either above, in small intestine involvement or below umbilicus in large intestine. The advance of intestinal spasm is indicated by change in the location of pain. As spasm progresses toward rectum and anus pain reaches pubes and remains stationary until fecal mass is expelled.

IX. Inflammations of the peritoneum cause pain only when acute. Should the onset be sudden, from a ruptured viscus, the pain is paroxysmal and most severe.

When well established, pain is only produced on pressure, when taking a deep breath; upon pelvic examinations, and in some cases on flexion of the body.

Chronic inflammations are less marked. Discomfort rather than pain, due to

1. Traction and pull from adhesions.
2. Distention of bowel from gas or fecal matter due to adhesive bands.
3. Localized collection of fluid encysted by adhesions.

In some cases of slow, insidious peritonitis of T. B. origin there may be no pain of any moment, until adhesions form, when pressure causes tension pains.

Remember that some of the most acute abdominal colics may be due to menstrual pains.

My time is up, and I will conclude this inex-

haustible subject by stating that every belly pain is not an operative belly; that a thorough exhaustive analysis by x-ray and laboratory should be a part of your examination. Remember tabs and pneumonia and even with the Lord's help you may be wrong.

### NEPHROLYSIS AND URETEROLYSIS.\*

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The term nephrolysis was introduced into the surgical terminology by Rosving in order to denominate an operation, whose aim it is to free the kidney from pathologic attachments. If an operation of similar character has to be performed on the ureter, we speak of ureterolysis. These pathologic conglutinations of the kidney are the result of perinephritis, the inflammation of the perirenal fatty and fibrous tissue. This inflammation may either be due to an infection that originally intrarenal, permeated into the perinephrium, or it may be indigenous. We know that the vascular system of the perinephrium is independent from the renal one, and a hematogenous perirenal infection may occur, though the kidney does not participate in it. If these perinephritis be of any considerable degree, then the inflammatory exudates will in due time become organized; they are transformed into fibrous tissue, which eventually either in toto or partially undergoes cicatricial retraction. In this way the kidney either becomes surrounded by a rigid pathologic capsule or strands are formed that connect it with other intra abdominal organs, or by excessive contraction dislocate the kidney. It is easily understood how either form of cicatrization will influence the kidney and is apt to produce subjective and objective symptoms. The functional efficiency of the kidney is based on the velocity of the blood stream coursing through it, or in other words upon the amount of blood that is forced through it during a given unit of time. If for instance by a sudden increase of the fluid intake a precipitate demand is made upon its excretory functions one of two things may occur. Either the enveloping cicatricial capsule is still quite elastic, then the necessary increase of the renal blood stream will be

brought about by an excessive heart action, and cardiac symptoms may develop, or the cicatricial envelope does not yield, and then a case of hyposthenuria will ensue.

This kidney has lost its elasticity of function, it is unable to adjust itself properly to a suddenly increased demand. At the same time the disproportion between distensibility of the kidney and the increased blood pressure may produce renal pain. In other instances cicatricial strands may interfere with the venous reflux, stagnation in the kidney may result, so that even red cells will appear in the urine and transitory renal edema may again cause painful sensations in the kidney.

If cicatricial strands cross the junction of the renal pelvis to the ureter quite pronounced clinical symptoms may result. A compression of this junction may produce not only periodical or eventually permanent dilation of the renal pelvis, but also typical renal colics. An occasional dilatation of the pelvis will manifest itself subjectively by an uncomfortable sensation in the kidney region, which clinically is recognized by the insertion of the renal catheter. As soon as its eye enters the pelvis, a considerable amount of urine will at once be drawn by the catheter. If this compression reaches a higher degree and the kidney for some reason increases suddenly its function then an acute dilatation of the pelvis may result. The attempts at emptying itself produce a regular delirium of contractions of the pelvis, that are perceived by the patient as renal colics, that do not subside until the pelvis gets rid of its contents or is quieted down by morphin.

Distortions of the ureter due to perinephritis concern its upper end and present as a rule two types. One is a tangential attachment of the ureter to the lower pole of the kidney and the other is a fishhook or loop deformation of its normal course due to attachment to the upper renal pole, to which the upper ureteral end is drawn up by adhesions. These distortions of the ureter not only interfere with its regular contractive wave, so important for the proper propulsion of the urine, but may also lead to distension of the renal pelvis and subsequent renal colics. The diagnosis of a ureteral deviation due to adhesions is easily made by the employment of the shadowgraph catheter. On the Rcentgen plate its shadows demonstrate its close

\*Note.—Read before the joint meeting of Chicago Urologic and Chicago Medical Society, March 30, 1922.

proximity to the edge of the renal shadow and its abnormal course.

The diagnosis of pronounced perinephric changes is made by the direct interpretation of clinical symptoms and also by the process of elimination. A history of a previous focal infection as furunculosis or tonsillitis will point to the probability of a glomeruli nephritis, subsequent to which a perinephritis may have developed, indicated by the persistence of sensitiveness of the renal region after the urinary symptoms of nephritis have subsided. The Roentgen plate will demonstrate a dislocation of the kidney, and the shadowgraph catheter will demonstrate on the plate distortions of the ureter. If though renal colics occur, the Roentgen plate fails to show any concretions, and if the urine is microscopically normal or if only occasional cylindroids and reds are observed, or if only one kidney is found to be hyposthenuric, then the above mentioned clinical syndrome will indicate the diagnosis of a cicatricial perinephritis.

The therapy is an operative one. The kidney is exposed, the pathologic fibrous capsule is stripped off, strands are severed, the pathologically attached ureters are freed, and in order to prevent re-attachment, a fatty flap is interposed between the upper end of the ureter and the kidney. No nephrolysis is to be considered complete until the renal pelvis and its junction to the ureter are inspected and if necessary, freed from any pathologic encroachment.

The nephrolysis furnishes particularly signal results in cases in which the nephritis outlasted the acute stage of the accompanying perinephritis. Then the nephrolysis will do away with the mechanical interference, while decapsulation performed at the same time will exert its therapeutic influence upon the nephritic condition.

The exposure of the kidney for the purpose of nephrolysis should be done by a gridiron incision, in order to reduce to the utmost the surgical damage, and not to cause a disproportion between the surgical gain and the surgical risk.

Nephrolysis and ureterolysis may safely be quoted as a distinct progress in G. U. surgery. Properly executed the operation is safe for life and furnishes invariably good results, giving to the patients relief, that could not be brought about in any other way.

## THE "EVIL" OF ADENOIDS IN INFANTS\*

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BUSHNELL, ILL.

The object of this paper is, first, to emphasize the fact that adenoids are more frequent in babies than is usually presumed, second, to advocate the removal of the adenoids as a routine measure, especially in all those with even the slightest indication of their presence.

In a review of the literature for me by the American Institute of Medicine only four articles on similar subjects were found, so it shows it has had very little attention.

My observation of several cases impressed me that it was a matter not much considered by the pediatrician, and as otolaryngologists we rarely see the patients until they are brought to us with some complication, or later in life with the well developed adenoid face which they carry through life, and with which the orthodontist is doing wonderful work.

The evils of adenoids in general are 1, obstruction, partial or sometimes complete of the nasopharynx; 2, focal infection; 3, a large area for the growth of infection to drop into the lower pharynx and be swallowed, causing an intestinal infection as well as respiratory infection. A fact being recognized by the internist more recently than formerly.

Adenoids persist in the adult, in an unfavorable environment, such as our soldiers were placed in the late war. Major Shambaugh, with whom I had the privilege of being associated, remarked, "I never saw so many adenoids in adults as we are seeing in the returned overseas soldiers."

I believe our children's diseases would be far less severe with a clean pharynx, the area of infection would be less, and scarlet fever, measles, bronchitis, pertussis, etc., would have fewer ear complications.

I wish to report a few cases just to show the splendid results from a simple adenoidectomy by use of a small LaForce adenoidtome or similar instrument.

1. E. H., female, aged 11 months, who had been treated 3 weeks by a general practitioner for irido-cyclitis and otitis media acute suppurative, came to me with corneal ulcer of right eye.

\*Read before the Section on Eye, Ear, Nose and Throat, Illinois State Medical Society, Chicago, May 17, 1922.



After 8 days' active treatment and no results I removed the adenoids with immediate results and rapid recovery of both eye and ear, and also made a tired mother happy.

2. D. P., female, aged 22 months, had a double otitis media acute suppurative and for four days had been having convulsions of about two minutes duration every four hours. I was called to a neighboring city in consultation by physician and general surgeon. Both ears were draining freely—no definite mastoid reaction. I advised the adenoids removed to facilitate drainage of ears and sinuses. The consultants didn't approve. I had to wait two hours for a train. In the meantime the baby had another convulsion; the doctors then asked me to operate, which I did; the babe had but one convulsion after operation, and made a rapid recovery.

3. A. H., male, aged 20 months, about 11 months before had scarlet fever, running left ear ever since, then became deaf in the other ear. The mother, in wiping out the left ear, found two ear bones in the pus; naso-pharynx was obstructed. I operated, doing an adenoidectomy, and the other ear became normal—hearing good.

4. S. P., male, aged 11 months, recurring otitis media acute suppurative. I did an adenoidectomy with complete recovery and no recurrence in one and one-half years.

5. The late Dr. Fletcher told me of a case of a babe 3 weeks old that could not nurse, due to complete pharyngeal obstruction, and couldn't breathe normally. Following an adenoidectomy, it took a large feeding.

I could give several other cases, if time permitted, but I do not feel it is necessary in order to emphasize the "evil" of adenoids in babies, and the benefit of an adenoidectomy before serious complications arise, or better still, routinely at an early age.

#### DISCUSSION

DR. OLIVER TYDINGS, Chicago: I want to report a case three weeks old, operated on for complete occlusion. Immediately after the operation the baby nursed and continued to improve. I operated on another patient about six to eight weeks old, and these are the two youngest patients I have ever had. In the one case there was complete obstruction at three weeks.

DR. A. L. ADAMS, Jacksonville: I think this subject gets insufficient attention, perhaps not by the nose and throat men but by the general practitioners. They see these babies and I do not believe they

realize that they can be benefited by special care. Dr. J. Lovett Morse, of Boston, presented a paper on this subject two or three years ago and it is well worth reading. One of the points he made was in regard to diseases of the upper respiratory tract, especially bronchitis, in infants which could be relieved by removal of adenoids. It is altogether likely that the infection lies in these infants, the same as in older patients, in the naso-pharyngeal tissue.

I have two cases to report, one an eight months old baby with a discharging ear which refused to respond to the ordinary methods of treatment but which promptly healed after operation, without any difficulty whatever, although it had been looked after for weeks without satisfactory results. The second case was a twelve months old child with recurring colds. In this case there was also prompt recovery after operation. I had considerable difficulty in removing the adenoids, having no instrument small enough, and I found my finger would not reach the naso-pharynx. I used later a Vogel curet, which is designed for operating on infants.

DR. GEORGE W. BOOT, Chicago: Just a word of warning. If the ordinary curet is used it is possible to scrape down to the cartilage, and cause a lot of trouble and deformity. It is quite possible to take off the end of the Eustachian tube by the ordinary curet.

DR. GEORGE S. DUNTLEY, Bushnell (closing): I emphasized the fact that I use the LaForce adenotome, which protects. It perhaps does not get all of the adenoid, but it gets enough to establish good drainage and ventilation. I would be afraid to use the ordinary cutting or biting currettes in an infant's naso-pharynx.

#### BILATERAL BLOOD STAINING OF THE CORNEA \*

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Blood staining of the cornea has been recognized as a clinical entity for many a year, although it has been only within the last decade that the nature of the staining element has been identified. A fair share of the cases of this disease eventually clear, thus obviating the possibility of staining experiments, and as it is impossible to determine *a priori* which cases will clear, comparatively few are available for chemical analysis of the staining elements during the early stages. The case here reported is of interest from another standpoint, and as far as a search of the literature reveals, it is a unicum. The findings will be described in somewhat more

\*Read before the Eye and Ear Section of the Illinois State Medical Society in Chicago, May 17, 1922.

detail than a mere case report would warrant because of the unusual condition.

August 20, 1919, M. G., female, aged 35. About 6 months ago, inflammation of the right eye followed shortly by similar inflammation of the left. No treatment. Condition gradually subsided and recurred frequently. No etiological factor known of. Gradual decrease in vision.

Status praesens: R. Faint ciliary injection. Multiple posterior precipitates on the cornea. Anterior chamber shallow. Iris somewhat atrophic and pupillary edge very serrated by multiple dense posterior adhesions which, almost entirely, prevent dilatation of the pupil. Some exudate on and opacity of anterior lens capsule. Vitreous hazy but no formed floaters. Fundus is seen hazily, but seems normal. Vision, 0.1. Tension normal.

L. Eye pale. No posterior precipitates. Iris atrophic, but not as markedly so as right. Pupillary edge is free only in upper quadrant and bound down elsewhere by multiple posterior adhesion. Anterior capsule clearer than right. Vitreous hazy. Fundus is hazy, but seems normal. Vision, 0.6. Tension normal.

A search for etiological factors of the old iritis revealed no general pathology beyond a chronic constipation. The usual local treatment of atropine, dionin, and heat was ordered and K I was given internally.

The condition of both eyes continued for about a year with alternate subacute exacerbations of the iritis and remissions, complicated by intermittent increase in the intra-ocular tension. The vision continued to decrease slowly.

July 8, 1920. *Bilateral Keratome Iridectomy*. The pupillary edge of the right iris could not be freed and consequently the sphincter was left intact. Both anterior chambers filled with blood which was immediately renewed upon removal.

July 11, 1920. R. Moderately injected. Wound well closed. Anterior chamber full of blood. L. Some edema of lid. One corner of wound blocked with a tag of iris tissue. Tension increased.

July 14, 1920. Both eyes becoming paler. Both corneae show a good window reflex, but are dull reddish brown in color and are completely opaque. Ordered dionin, heat, K I internally, and sweats.

July 19, 1920. No change in condition. Started subcutaneous injection of 8 mg. of Fibrölysin every other day.

July 27, 1920. Color of right cornea has changed from a deep red brown to a green brown.

July 30, 1920. Color of left cornea now changed to green brown.

August 6, 1920. Beginning clearing or right cornea in extreme periphery.

Sept. 3, 1920. Clearing of right cornea advancing rapidly. Tension normal. Left eye pale, but flushes easily. Beginning of clearing of cornea in extreme periphery. Tension minus.

Sept. 25, 1920. Nasal half of right cornea has cleared sufficiently so that iris is barely visible. Temporal half still greenish and opaque. Anterior chamber normal. Iris details not clearly visible. Pupil is filled with a schwarte and it drawn upward. Complete opacity of lens. The left cornea is somewhat flattened. The absorption of the greenish opacity is very slow and the cornea is becoming vascularized. A minute tag of iris is still incarcerated in the angle of the wound. The iris details are not visible. There seems to be a complete opacity of the lens. Tension minus.

Jan. 27, 1921. The right cornea is normal except for a slight area of opacity in the inferior temporal quadrant. *Discission of the right lens* very cautiously for fear of further hemorrhage.

The left eye is unchanged from the last record.

Feb. 25, 1921. *Extensive needling of the right lens*. There was not a great deal of reaction to this operation and although there was a slight hemorrhage into the anterior chamber, the blood was promptly absorbed.

June 21, 1921. No change in the condition of the right or left eye. An unsuccessful endeavor was made to perform a *Central Iridotomy* with a Ziegler knife.

July 7, 1921. A broad keratome incision was made in the right cornea and an *Irido-Ektomie* of the Elschnig type was attempted. Although no iris tissue was removed, the pupillary edge of the coloboma was freed and a large opening made through the schwarte that filled the coloboma. Behind this was an irregular mass of lens cortex and capsule.

August 3, 1921. The schwarte reformed, contracting the iris down and completely closing the coloboma so that the lens is not visible. The clearing of the left cornea has ceased despite all forms of local treatment.

With a Graefe knife, a 1/3 *incision* was made through the right cornea and with the tip of the knife and puncture and counterpuncture through the iris was made. On finishing the cut, a fair sized coloboma was produced. Through this considerable lens cortex was removed with a Jaeger spoon. About three beads of vitreous escaped.

The eye recovered from this extensive operation rapidly and with but little irritation so that on

Dec. 7, 1921. The right eye was pale. The cornea showed several peripheral areas of scar corresponding to the extensive operative wounds. In the coloboma were some capsular remains that covered the optical axis. These were severed by a simple *needling*.

April 1, 1922. Right eye pale. The cornea is slightly flattened and shrunken and shows numerous peripheral scars that are the result of the various operative procedures, but there is no opacity due to the blood staining in evidence, nor can any be discovered with the slit lamp. However, the lymph system (Saft-Lucken-System) of the cornea is very irregular with marked enlargement of the lymph channels. The an-

terior chamber is moderately deep in the center but is shallow in the upper and outer periphery where the iris lies near to the posterior surface of the cornea. The iris is irregularly atrophic and shows much scar tissue on its surface. There is a coloboma upward that is closed with a schwarte. In the center, corresponding to the pupillary area is a coloboma of irregular outline which lies below the former margin of the pupil, the latter having been displaced upward. Through this coloboma, a clear view of the fundus can be obtained. The vitreous is slightly hazy but the retina and nerve head present no pathology. The tension of the eye is normal.  $+11.00s = +3.00$  cyl ax 40 = Vision of 0.6 and with reading correction added—Jaeger 2.

The left eye is pale. The cornea is flattened and at the upper inner edge of the former iridectomy wound is a small black subconjunctival area of former iris prolapse. The cornea is diffusely opaque and with the slit lamp the opacity is seen to be within the corneal stroma, but evidently not involving the anterior or posterior membranes. The individual areas of opacity are not sharply outlined, but merge into one another with partially clear areas of corneal tissue between. There is a considerable vascularization by deep scleral vessels, four main trunks entering the cornea. There is not much ramification of the vessels. Corneal nerves can be seen at times and these appear to be thickened. The anterior chamber is shallow. Iris details cannot be seen, but the pupil appears to be dilated with a regular coloboma upward. The lens is entirely opaque. The tension is normal and the vision is light perception with good projection.

According to Maghy,<sup>9</sup> blood staining of the cornea was first described by Baumgarten<sup>1</sup> in 1883, whereas in reality the first description of the condition emanated from Schmidt-Rimpler<sup>14</sup> in 1875, and was called by him "Apoplexy of the Cornea." The present name was given the condition by Hirschberg<sup>8</sup> in 1896. In all, some 43 cases have been described by the various authors, about half of them accompanied by an anatomical study of the cornea. Undoubtedly many more cases have been observed, but have not made their appearance in the literature. Up to 1913, Kusama<sup>11</sup> was able to collect the reports of 21 cases to which have been added since cases by the following authors: Wells,<sup>17</sup> Buchanon,<sup>3</sup> 5 cases; Fisher,<sup>6</sup> Begle,<sup>2</sup> 4 cases; Maghy,<sup>9</sup> 3 cases; Wernicke,<sup>18</sup> Matsuoaka,<sup>19</sup> 2 cases; Passarello,<sup>12</sup> 3 cases; Elschnig.<sup>5</sup> In practically all of the cases studied anatomically, there was unanimity regarding the presence within the cornea of the highly refractile oval bodies so characteristic of the condition, and which were first described by Treacher Collins<sup>4</sup> and shortly after by Vossius<sup>16</sup> and somewhat later by Roemer.<sup>13</sup>

These authors all agreed that the bodies were probably derived from the blood elements that found their way into the cornea, but careful inquiry into the chemical nature of the bodies was not possible. In 1914, Begle<sup>2</sup> made a spectroscopic analysis of a blood-stained cornea and established the fact that "In this condition, a solution of hemoglobin is imbibed by the cornea. To the presence of this hemoglobin solution the greenish or brownish discoloration of the cornea must be ascribed." But his method of analysis failed to reveal the chemical nature of the intra-corneal refractile bodies and led him merely to the suggestion that "they are some elementary non iron-containing split product of hemoglobin, despite the fact that positive reactions for a number of the end products of proteid disintegration were not obtained." Simultaneously there appeared an article from the Tokio Clinic by the Japanese regimental surgeon Kusama,<sup>11</sup> whose investigations led him to the following conclusions: "It is very probable that the blood in the anterior chamber loses its normal characteristics (this is the theory advanced by Gutmann<sup>7</sup>) and that the hemoglobin which has diffused out of the red blood cells, forces its way into the parenchyma of the cornea by diffusion. From the hemosiderin thus carried into the cornea and which eventually loses its iron, the peculiar refractile bodies arise. From their characteristics, these belong to the group called by Unna,<sup>15</sup> "Melanosiderin." Maghy<sup>9</sup> agrees with this view in the main.

In many of the cases described clinically, the entire cornea was not involved in the staining process, while in those in which the entire cornea became opaque it was very noticeable that there was a fairly clear band of normal corneal tissue at the limbus. This is ascribed by Maghy<sup>9</sup> to the better lymph circulation of the cornea in this area. The staining usually followed perforating or blunt injury of the eyeball, but in some cases was subsequent to an irido-cyclitis, particularly of a persistent and chronic type. The condition appeared in from three days to three months after the exciting factor set in and was always dependent upon the presence of more or less blood in the anterior chamber. In some cases, the chamber was full of blood, whereas in others, there was but a two or three millimeter hyphaema. A few cases of entire clearing of the stained cornea have been reported, but in the majority the



condition persisted or complications arose that necessitated removal of the eyeball. The lens became cataractous in some of the cases, while in others the nutrition of the lens did not appear to be disturbed.

The case here reported presents the following unusual features: (1) Both corneae became stained with blood at the same time, subsequent to bilateral iridectomy. This procedure admits of discussion. Many prominent ophthalmologists believe in and practice operation upon both eyes at the same time, while others condemn such practice. Many factors, the discussion of which is not pertinent here, must needs be taken into consideration, not the least among which is the economic situation of the patient. As far as a search of the literature shows, this is the only bilateral case on record.

2. The blood staining appeared on the sixth day after the iridectomy during which time the chambers were full of blood. The diagnosis was made tentatively on the fifth day, but was not definite until the sixth. This time element coincides with that found in the majority of the case reports.

3. The intra-ocular tension, subsequent to operation, was at no time increased in the right eye and eventually this cornea became perfectly clear.

4. The intra-ocular tension in the left eye became increased immediately subsequent to the operation and in this eye the cornea did not clear. In this eye there was a small iris prolapse in one corner of the wound and whether this was incidental to or causative of the increased tension and subsequent persistent opacity (due to organization of new corneal tissue) or whether there was some underlying predisposition of that eye toward the unfortunate outcome cannot be told. What is the relation between intra-ocular tension increased subsequent to the hemorrhage and failure of the cornea to clear?

5. In both eyes, the opacity of the cornea extended completely to the limbus and involved every particle of transparent cornea. In that, this case varies from all heretofore reported.

6. The right cornea cleared completely, while the left remained slightly more than translucent. Both eyes appeared the same in the beginning, with the single exception of the small iris prolapse in the left, and both were subjected to the

same treatment. Incidentally, it is very questionable whether treatment had any influence upon the clearing process at all. That difference in regeneration is beyond the possibility of explanation.

7. The right eye was subjected to six more or less violent operative procedures, involving at different times considerable hemorrhage into the anterior chamber without any further staining of the cornea. Did a localized immunity to the split products of hemoglobin, either with or without iron, come into being, or did Decemet's membrane develop a closer mesh that prevented the diffusion of hemoglobin into the cornea or did the blood that appeared during the later operations in the anterior chamber retain the hemoglobin within the red blood cells or did the blood in the anterior chamber absorb so rapidly that there was not sufficient time for the diffusion of the hemoglobin into the aqueous and subsequent diffusion into the cornea? *Quien sabe?*

8. The lenses in both eyes became completely opaque. This was probably due to the nutritive disturbance induced by the inflammatory reaction of the anterior uvea and the consequent exudate.

9. The remarkable connective tissue forming capabilities of the right iris were evidently a manifestation of the toxic irritability of the tissue.

10. The ultimate corrected vision of the right eye is better than the vision of that eye was before the hemorrhage and blood staining occurred.

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### DISCUSSION

Dr. E. V. L. Brown, Chicago: Dr. Gradle is to be sincerely congratulated and commended on the favorable outcome of so desperate a case. His handling of it drives home an important lesson; namely, that we must not flinch in the face of difficult, hard cases, but "carry on." Here was a woman of thirty-three, blinded for three years from opacities in the cornea and lenses after recurring iritis of unknown etiology and bilateral hemorrhage into the anterior chambers. One unsuccessful operation followed another until six major procedures had been carried out, the lens removed and finally useful vision was restored, (6/10).

Dr. Gradle raises the interesting question as to why the staining of one eye persisted for a long time and the other cleared. I would attribute it to the increased tension noted in the eye which did not clear, both before the first operation and at repeated intervals after the operation, with normal tension throughout in the eye which did clear. I do not know how many of the reported cases have had increased tension, but I am now sectioning an eye which was struck by a base ball without gross changes in the outer tunics. The day after the accident the anterior chamber was found filled with blood and the tension very high. Eserin reduced the tension, but blood staining of the cornea followed, the eye shrunk and had to be removed some weeks later.

As to the advisability of operating upon both eyes of a patient the same day, I think there can be only one opinion in the average case, and that is that it is best not to do so.

Dr. William G. Reeder, Chicago: This case is of vital interest to me as I have a case of blood staining of the cornea under observation at present. The patient is a woman about fifty years of age on whom I performed a preliminary iridectomy. There was slight hemorrhage at the time of the operation obscuring the field of operation somewhat. Twenty-four hours later part of the blood had absorbed. In thirty-six hours the patient began to complain of pain and on removing the bandage I found fresh blood in the anterior chamber. Attacks of pain and increased tension persisted for several days with recurring hemorrhages into the anterior chamber. After eight days either spontaneously or because of injections of pituitrin the hemorrhage ceased. The eye then went on to recovery, the contents of the anterior chamber absorbed and about three weeks later I found a blood stain of the cornea.

From my observation in this and several other cases I am convinced that blood staining of the cornea following trauma or some surgical procedure occurs in cases of persistent hemorrhage into the anterior

chamber in presence of delayed healing of the corneal wound involving the inner layers of the cornea.

The interesting feature of Dr. Gradle's case is the persistent opacity of the cornea which accompanies the blood stain. What is the cause of this condition? That is a difficult question to answer. It may be secondary to the blood stain. It may be due to a degenerative process of the cornea following the cyclitis. The original uveitis may have been a tubercular uveitis, and because of trauma to the cornea a sclerosing keratitis may have been set up.

Dr. A. L. Adams, Jacksonville: I wish to congratulate Dr. Gradle on his interesting presentation. I think this subject is not presented very frequently. There is very little in the literature concerning it. My attention was first called to this condition about ten years ago, when I saw a patient, a girl of about twelve years, who had been struck in the eye with a snowball the day before. When I saw her the anterior chamber was filled with blood and, of course, there was no vision. There was light perception in all parts of the field and she, as I remember, was suffering some pain. There was some slight increase in tension and Dr. Brown made the statement that he thought it was because of the tension in the eye in this case that the straining occurred. In my case there was increased tension, pain and loss of vision. The eye was treated with dionin, hot applications and sweats. She was made more comfortable in that way but there was a glazed appearance of the cornea and I was unable to make out any part of the iris at that time. She was seen by Dr. Wilder within a month and the interesting feature of the case was that the cornea was completely stained. No particle of the iris could be seen at first but this absorbed from day to day, from the periphery, and we found there was an inversion of the upper part, so the eye looked as though an iridectomy had been performed. The discoloration disappeared entirely and the vision, which I cannot remember exactly, was about 3/4 or 4/5.

Dr. Harry S. Gradle, Chicago (closing): This question arouses certain very interesting speculative ideas. First, as to the why and wherefore of the blood stains. We have a hyphemia so often that it is strange we do not have more blood staining. The coagulation time was taken in this case and found to be perfectly normal. The diffusion of hemoglobin into the cornea may be a property of the hemoglobin or it may be that the mesh work of Descemet's membrane is not close; but in many cases there is a rupture of Descemet's membrane, probably by *contra coup* without any direct trauma to the cornea itself. In the cases where Descemet's membrane is loosened from the cornea it seems that there is a passage of the hemoglobin underneath Descemet's membrane into the cornea proper.

I am very sorry I cannot agree with Dr. Reeder that delayed healing is a cause of staining. This has been taken up in the literature and it has been shown that the delayed healing has not been a factor.

## RECTAL FISTULA INVOLVING THE INTERNAL SPHINCTER MUSCLES

CHARLES J. DRUECK, M.D.,

CHICAGO

It is fortunate that the internal opening of rectal fistulas is usually situated in the free space between the external and internal sphincters, and the result which follows most methods of operation depends upon this fact, necessitating, as it does, damage only to the external sphincter. A considerable number of fistulae, however, have their internal opening above the internal sphincter, and it is this variety which the surgeon finds most difficult to cure without more or less serious impairment of the rectal function. Many fistulae have a decided tendency to ramify in the loose fat and tissues about the rectum and buttock and thus contribute much to the difficulty of a satisfactory surgical treatment.

Finding the internal opening of the fistula is one of the most important steps in the treatment. It is this opening which constantly reinfects the sinus and unless it is eradicated our cure cannot be permanent. The internal opening is frequently found in the posterior commissure, although it may be in the anterior. Generally it is above the external sphincter and below the internal sphincter. The opening may be in an indurated spot perhaps somewhat raised, or in an ulcer with wide and gaping rough edges, or it maybe in the base of a crypt. All ulcerated and even congested spots must be carefully examined for possible internal opening of a complete fistula or the opening of an internal incomplete fistula.

Having found one internal opening a careful search must be continued for others perhaps higher up. A second opening may be found even above the internal sphincter. To carry the incision up to this second opening is a serious matter, as it necessarily divides both sphincters and a part of the levator and muscle. Thus causing incontinence which may be permanent. So lengthy an incision is difficult to heal and results in constriction of the bowel at this level, thus further contributing to fecal incontinence.

Two cardinal principles underlie the treatment of fistula in ano. First, the separation of the fistulous tract or tracts from the communication of the bowel and secondly the adequate closure of

that communication together with the removal of all the diseased tissues in the rectum. These measures having been employed, there is no occasion for an extended and complicated dissection or removal of all ramifications of the fistula because with adequate drainage externally upon the skin these sinuses tend to heal.

*Technic of Operation:* The preliminary preparation of the patient is routine as far as incision of the fistula, always observing the strictest antiseptis at every step.

The patient having been anesthetized is placed in the exaggerated lithotomy position. After the sphincters have been thoroughly dilated the general course of the sinuses is located with a probe and the communication with the bowel determined. An incision is now made encircling the anal opening at the muco-cutaneous junction. A pair of blunt pointed dissecting scissors curved on the flat is now passed into the incision and by blunt dissection the mucous membrane is divided at its junction with the skin around the entire circumference of the bowel, every irregularity of the skin being carefully followed. The mucous membrane thus separated from the skin is held by means of four forceps.

The external sphincter and the lower edge of the internal sphincter are now exposed and carefully pushed upward and away from all possibility of injury. The dissection of the mucous membrane is continued upward until well above the level of the internal opening and the diseased mucosa, or to the attachment of the levator ani muscle if no internal opening can be demonstrated, care being taken to keep as near the mucosa as possible. In this way complete separation of the fistulous tracts from all communication with the bowel is effected, the dissection must be carried sufficiently high to mobilize enough healthy tissue about the diseased area that all the affected tissues about the internal opening may be brought outside the anus and removed by amputation, thus leaving a normal rectal stump which may be sutured flush with the skin edge without tension.

The mucosa above the diseased level is now divided transversely in successive stages and the free margin of the severed mucous membrane above is attached as soon as divided to the free margin of the skin below by a suitable number of mattress silk sutures. These sutures are



placed in such a manner as to obliterate all dead space.

The sinusses are now excised up to their entrance to the sphincter muscle and the cavity carefully packed with gauze for three or four days.

By this technic the internal opening is obliterated and any other associated diseased conditions are removed. The sphincters are preserved intact. In those cases where the sphincters have been previously divided scar tissue may cause difficulty in the isolation and repair of this muscle. In such instances the divided ends of the sphincter should be well exposed and turned back free from the mucosa. Then after the fistula bearing cuff has been drawn down the cut edges of the sphincter ani are united.

This procedure eliminates the necessity of cutting through the perineum down to the fistula and thus conserves a large amount of important tissue while also lessening the postoperative disturbances of the patient.

#### THE PROGNOSIS IN THE RADICAL CURE OF HERNIA \*

W. F. GRINSTEAD, M.D.

CAIRO, ILL.

One cannot think of the radical cure of hernia without first thinking of the anatomy of hernia; therefore one cannot write or speak of the subject without reference to this fundamental element.

Forty years ago when some of the members of this society began to practice the science and art of healing infirmities and prolonging human life, little was said about the radical cure of hernia but much was said about the control of hernia by various forms of truss; the reduction of incarcerated hernia by taxis and the operative treatment of irreducible and strangulated hernia. The latter condition struck terror to the village doctor who had no hospital facilities, no trained nurses, scant surgical armamentarium and uncertain knowledge of the etiology of infection, peritonitis and septicemia. It will be remembered that Joseph Lister had not driven home his doctrine of microbic wound infection and its prevention which nobody questions now. Medical men were debating pro and con and sometimes quarreling

over it. With a wink of contempt for Lister's theory, as late as the nineties, I saw a celebrated surgeon pick from the floor of the operating theatre a bit of silver wire which he dropped in doing the Macewen operation of infolding the hernial sac, wipe it off with gauze and use it. In 1882 our American master and idol in surgery, Samuel D. Gross, published the 6th edition of his monumental work, in two volumes, on surgery.

To show the status of Listerism at that time, it may be interesting to quote a paragraph from Gross:

"Whether carbolic acid, apart from other means, recommended by Mr. Lister, is really of any benefit in the treatment of these injuries is still a mooted question.

"During the past seventeen years, mainly through the exertions of Mr. Lister, the attention of surgeons has been directed to the prevention of the entrance of these schizomycetes into wounds from the surrounding atmosphere, with a view of avoiding decomposition of the discharges, and thereby averting local and general inflammatory processes. That the introduction of these low organisms into the system from putrefying surfaces occasions the septic fevers is strenuously asserted by Pasteur, Lister, Sanderson, Birch-Hirschfeld, Hueter, Koch, and other distinguished observers; but that they are essential to their development is by no means proved. \* \* \* To sum up my own views of the nature of the septic poison, I may state that I believe that the infective material is sepsin, or the chemical product of the decomposition of the tissues, and that the schizomycetes, which have been shown to be present in the blood and organs of septicemic and pyemic animals and men, as well as the corpuscles of putrefying blood and pus, act merely as carriers and disseminators of the poison."

Truth to tell, the danger of infection and peritonitis were so great that the crude methods of operation for radical cure for hernia were seldom employed. The mortality was too high and percentage of relapse was too great. Surgeons operated when they were compelled to do so by strangulation, which was certain death without surgical interference. Indeed, a fatal issue with surgical interference was so common that a diagnosis of strangulated hernia was appalling. Patients would not accept operative treatment when strangulated till they reached a stage when the mortality was 50 per cent.

In these dernier resort cases, the doctor, with no special training in surgery, was in almost as much distress as the patient. With his all too short courses of lectures and still shorter courses

\*Read before the 47th annual meeting of the Southern Illinois District Medical Society at Belleville, Ill., November 5, 1921.

in clinical demonstrations, he had been deeply impressed with the indispensable necessity of knowing the details of the anatomy of hernia almost like he knew his alphabet. Otherwise he feared he would cut something that would kill or ruin his patient. He must know what the inguinal canal was, where to locate the internal ring, and define it. Where to locate the external ring and define it. He must know that the canal was covered by integument, superficial fascia, aponeurosis of external oblique, inter-columnar fascia, cremasteric fascia and infundibuliform fascia. He must know what was behind the canal and formed its posterior wall if he made any attempt at radical cure.

He must be able to define the crural canal and know that it was not a canal at all till the femoral sheath was dissected away and the crural fascia (septum crurale) dissected from the inner end and the cribiform fascia was dissected from the outer end. He must know that the crural canal was only about half-inch long, but through it passed that dangerous form of hernia called femoral hernia. He must know the coverings of femoral hernia, on which side the femoral vessels were located and how to incise Gimbernat's ligament with a probe pointed bistouri without seeing it.

I am unable to express to you the relief I felt when I read the following paragraph in my new edition in Gross' surgery above referred to: "The anatomy of rupture is generally a bug-bear with the young surgeon, and it were, perhaps, well if, after dividing the common integument, he forget it altogether, since, if he attempt to remember the different structures described in the books, he cannot fail to be greatly embarrassed."

Notwithstanding this truism and the great relief it gave me in those days of pre-antiseptic surgery when the tyro in surgery needed so much more protection against his own ignorance than he does now; there are some fundamentals in anatomy which the operating surgeon cannot shut his eyes to if he gives his patient everything he is entitled to under modern methods. I have in mind the structures, the faulty development of which or co-aptation of which make hernia possible; and the re-arranging of which we must rely upon to effect a cure. People are demanding more and more that they be relieved of this infirmity and protected against its dangers. They

have learned of the high per cent. of cures by surgical treatment and the negligible risk in competent hands. They have also learned that a truss is a dirty nuisance and unreliable in efficiency and service. The limits of a paper for an occasion like this, as set forth in our by-laws, will not permit a wide range of discussion; therefore, I shall attempt to consider only those three common forms of hernia which are of paramount importance, namely: Inguinal, Femoral and Umbilical. I have named them in the order of their frequency. Lately, many authors have written and I have heard many honest and competent surgeons say that inguinal hernia is practically always the result of a pre-formed sac. I believe they are right. The evidence they offer, which I have not time nor space to discuss, is convincing. Ambulance chasing lawyers will tell you they are wrong. They can not get their graft by other pleadings. To effect radical cure the sac must be obliterated. Moreover, the structures through which it passed must be strengthened to meet and resist the pressure from within. These are the two fundamentals in bringing up the abnormal canal to the normal standard. What are these structures and how can we strengthen them? In a nutshell, they are the conjoined tendon of the internal oblique and transversalis muscles. They have plenty of strength and substance, in nearly all cases of inguinal hernia, to retain the viscera if properly distributed. All the other structures are practically negligible. Some surgeons have a lot to say about their particular methods of imbricating and suturing the aponeurosis of the external oblique muscles in building a wall of resistance. They appear to forget that the viscera must escape through the internal ring into the inguinal canal before it comes in contact with this aponeurosis. A bubonocoele does not pass the external abdominal ring. Recently I did a double bubonocoele at one sitting and both external rings were free from involvement. To succeed in radical cure we must prevent escape of the viscera through the internal ring. Stripped of all verbiage, this ring is simply a hole in the transversalis fascia. Please remember, I am not now discussing direct inguinal nor ventral hernia. The posterior wall of the inguinal canal is the barrier with which we must reconstruct after we have obliterated the sac. What tissues form this wall? They are the triangular fascia formed by fibres from the aponeurosis of the ex-

ternal oblique of the opposite side that pass across the linea alba to be inserted into the crest and ilio-pectineal line of pubis; the conjoined tendon of internal oblique and transversalis muscles; the transversalis fascia; the perititoneal fat and peritoneum. For practical purposes we may as well forget all these except the conjoined tendon and peritoneum; the latter to be disposed of, the former to cure our patients with. A great variety of methods, some of them ridiculously and brutally crude, have been employed to obliterate the sac, thinking thereby to plug the hole of escape.

Permit me to quote again from Gross: "What surprises me is, not that these operations should have been practiced in ancient times, but that they should have been repeated at a comparatively recent period." Catering to the terror created for the knife in preaseptic and antiseptic days, a wily Englishman named Heaton, introduced the method of injection into and around the sac to form a barrier of adhesions to antagonize the protrusion. After accumulating a fortune by the fake method he gave it to the world. His material consisted of a decoction of white oak bark—*Quercus alba*. This occurred less than a century ago—about 80 years—and a few people are still making a living out of it. The method will hold the protrusion up, in many cases, till the grafter collects his fee. That princely gentleman and master of surgery, the late William T. Bull of New York, about two decades ago arranged with his assistants and about fifty patients who had hernias, to give them the injection treatment for radical cure and follow them up for a year or two. They all relapsed.

It has been my privilege to see Bull in action at his clinic in the Hospital for Ruptured and Crippled in New York, where he and his colleague, Dr. W. B. Coley, supplied the profession with statistics of the highest value and unquestioned reliability. They are recorded in Keen's System of Surgery. In the above named institution, from 1891 to 1913, nearly a quarter century, more than 3,000 operations for the radical cure were done with less than 1 per cent. relapses. Think of it. The mortality is negligible, somewhere around 1 in 500 lately. One might be justified in saying that an occasional death is accidental, due to infection, pneumonia, embolism and other remote possibilities.

For my own information and the purposes of

this paper I have reviewed my clinical records of my last 109 cases. I have had no deaths. In this connection, I perhaps should state that my cases of strangulation are not included in my mortality report. They, clearly, do not belong there, because some of them are brought in with gangrene of intestines and require resection and anastomosis. They are not operations of choice and, if a radical cure is attempted, it is merely incidental. We know that if operation is delayed to the third day about 50 per cent. of them will die, no matter what we do for them. At this juncture I recall a case of strangulated umbilical hernia which interested me very much and, while it leads a bit from a rigid adherence to my subject, I believe it will interest you. Mrs. A. T., aged 40, mother of several children, had an umbilical hernia, large as a cocoanut. She lived about 40 miles from Cairo, where only one train daily was operated at that time. She missed that train and her hernia was strangulated. We got her eighteen hours after her diagnosis and operated at once. Twelve inches of gut and a large mass of omentum were in a state of gangrene. The omentum we ligated in sections and cut away. The dead intestine was resected and end-to-end anastomosis made. Notwithstanding the desperate condition of the patient, we did a Mayo radical cure operation in closing her belly. She was discharged from hospital three weeks from day of admission, cured. Several times subsequently I heard from her and she remained cured.

In this series of cases, my last 109, I have had six umbilical hernias, they were all operated on by the Mayo method and all cured. Prior to this series, however, I had a relapse in a case treated exactly the same way. It was a man about 60 years old who had an old umbilical hernia size of a lemon. It became irreducible and painful, not strangulated. Patient was short, stocky, fat, with a heavy pendulous belly, that suggested ownership of a brewery, but he didn't. There were three of four inches of fat between the skin and aponeurosis and I cut away a section of it transversely, four or five inches wide and eighteen inches long to remove part of the load from my stitches. After his relapse he had no trouble with his hernia but had to wear an abdominal supporter. I have had a 100 per cent. cures in the series I am reporting.

In my inguinal and femoral hernias I have had



six relapses. This does not compare favorably with the statistics above quoted from the Hospital for Ruptured and Crippled in New York, but there are mitigating circumstances.

Let me point out a few of them. As a preface, permit me to say that I sought a personal conference with Dr. William T. Bull at the close of his clinic referred to above and asked him about the ages of those patients in whom he advised radical cure operations. His reply was between four years and fifty. In children under four years a well-fitted truss, in this age of rapid development, would sometimes produce enough irritation to contract the opening and cure the hernia. We know that these little ones will fret and cry more or less after operation, causing much tension on our sutures. Moreover, they are apt to infect our operation wounds through soiling of the dressings with fecal and urinary discharges.

About fifty we have the inevitable laxity of tissue which does not possess the vigor and tonicity to resist intra-abdominal pressure that obtains in earlier life.

Let us apply this edict to my relapses. One was a seven months' infant which had the habit of crying all the time when awake if not full of paregoric. The mother and family physician believed its congenital hernia was painful and kept it crying. They thought they could quiet it for short intervals by reducing and holding its hernia. I fell into the trap. Three other patients that relapsed were aged 56, 62 and 65. One of these had a post operation hemorrhage with extravasation under the skin and clotting. Two of these cases had sufficient relief, however, that they could control their hernias with trusses and be comfortable. The one, aged 65, was re-operated on and cured. There were two of my relapses to which these mitigating circumstances did not apply. One was a Jewish retail merchant, 40 years old, who never did a day's real labor in his life. The other was a well-developed school marm, 26 years old. I would have gambled a hundred to one that both these cases would be permanently cured. They relapsed within a year. I urged them to give me another try. They consented and were both permanently cured. I operated on them the second time exactly as I did the first, except I dissected out the round ligament in the young woman and sewed the stump

to the abdominal aponeurosis. This leaves three of my patients wearing trusses, out of 109, under mitigating circumstances; unless the baby cried itself to death. I believe I could cure these if they would allow me another try. I am satisfied with these results. I find pleasure in recalling three cases cured whose ages were 72, 83 and 85. I intended to report these cases in detail when I started this paper; but I find they would make the paper too long. It goes without saying that they were emergency cases with the radical cure feature added.

This brings us to the consideration of choice of operation. Practically, there are two to choose from—the Ferguson and the Bassini, except in the umbilical hernias in which everybody concedes the superiority of the Mayo method. There are many modifications of these by surgeons who write books or chapters in books or teach surgery and want to appear original in thought, but the principles are represented in these.

The Bassini transplants the cord. The Ferguson does not. Why transplant the cord? Simply to put it out of the way. The space occupied by the cord is obliterated in the Bassini by the conjoined tendon and an unbroken wall is presented. In the Ferguson a line of displacement in this wall is maintained by the cord. To obliterate this displacement I dissected out the round ligament in the young woman who had relapsed as reported above. Let me quote W. B. Coley on this point from his supplementary chapter, in vol. 6, Keen's Surgery, to his original, exhaustive chapter in vol. 4: "It is impossible accurately to estimate the value of any method of operation from the results of operation by different men, but, fortunately, at the Hospital for Ruptured and Crippled, we have a large series of cases in which the cord was not transplanted to compare with a similar series in which the cord was transplanted, and in which the operations were done by the same group of men. Such comparison shows a distinct advantage in favor of Bassini's method."

In reviewing my last 109 cases, I have been impressed with the temptation to throw out, or omit to report, failures on account of complications or atypical condition that offer excuses. I believe many statistics are garbled in this way by authors whose ambitions do not square well with their conscience. Such statistics are misleading and damaging to science and practice.

# ALEXIA (CORTICAL WORD BLINDNESS) WITH AGRAPHIA IN A CHILD

SIDNEY D. WILGUS, M.D.

ROCKFORD, ILL.

A boy, aged 12 years, was brought to me for mental examination in August, 1918. It had been ascertained in school that he could not be taught to read, so the teachers considered him feeble-minded and recommended that he be sent to the Lincoln State School and Colony.

## Family History

The family history shows that the father is an alcoholic and was so prior to the birth of our patient and since. An aunt on the paternal side was insane. A brother is a mouth breather but is said to be "very smart." The only other brother was a bright child and died at a tender age as the result of a burn. History maternal side negative.

## Personal History

The child was born March 16, 1907, "9 weeks ahead of time." For the following year the child lay "nearly dead all the time." After that brightened considerably and walked at about 2 years and began to talk at about the same time. Tooth- ing was normal. The child was not a bed-wetter. While a small child our patient was thrown across the room by his father and suffered a scalp wound over theinion, the scar of which shows to this day. Later nothing mentally abnormal was noticed about the child and he was sent to school at 6½ years. After a time the teachers found that he was unable to learn to read but yet he possessed a remarkable memory and progressed to the fourth grade although the mother says "the promotion was not deserved." It was at this time that the school superintendent declared him feeble-minded but his people wanted further advice.

## Physical Examination

Young male, 4 ft. 7 in., weighing 70 pounds. Muscles well developed but without much subcutaneous fat. Teeth normal. Skull brachycephalic with some depression between rounded and bulging occipital bones, with the left projecting a little more than the right. Scar central on the lower surface of theinion. Ears normal. Taste normal. Smell, says cloves is pepper. Eyes blue, pupils 2 millimeters, equal and react normally to light and accommodation and concussually; external motility normal. Vision normal. Field of vision normal. Color field a little doubtful but probably normal. Fundi normal. No ex- or enophthalmus. Facialis normal. Palate as to form and motility normal. Hearing normal. Motor and sensory 5th normal. Voice normal. Speech rather childish because of careless pronunciation and lisping but these can be largely corrected. Muscles of the neck normal. Thyroid normal; heart shows slight impurity of the first sound. Pulse 72, regular, good size; ar-

teries normal. Lungs normal. Abdomen and abdominal organs normal. Spinal column normal. Genitals normal. Glands normal.

## Neurological Findings

Voluntary motor system.—No abnormal attitudes or deformities. The gait is normal. Coordination of movements of the arms, legs and body are normally performed. Ataxia, all tests, negative. No Romberg. Tests for equilibrium all normally met.

## Reflexes:

### Deep:

	Right	Left
Jaw .....	1	1
Biceps .....	1	1
Triceps .....	2	2
Wrist .....	1	1
Patellar .....	2	2
Achilles .....	1	1

### Superficial:

	Right	Left
Cyliosspinal .....	2	2
Upper Abdominal ....	2	2
Lower Abdominal ....	2	2
Cremasteric .....	2	2
Babinski .....	2	0
Levandowski .....	0	0
Gordon .....	0	0
Chaddock .....	0	0
Plantar .....	0	2

(2 represents good activity).

Abnormal involuntary movements.—No tremors, twitches or other abnormalities.

Muscle strength.—Dynamometer shows 25 in the right and 30 in the left hand. No loss of muscular balance in the legs.

Muscle status.—No change in contour in either upper or lower limbs. Electrical reactions were not taken.

Touch acuity.—Localization and discrimination normal upon each side of the body.

Temperature.—Acuity normal over the entire body.

Pain.—Normal Stimuli felt normally over the entire surface of the body.

Stereognosis.—Could recognize all objects by touch and give their use.

Apraxia.—Recognized nature and use of objects.

## Mental Examination

The Binet Test indicated a mental age of 10 years; chronological age 12 years; hence retardation of 2 years; in some mental spheres he seemed quite normal for a boy of his age. His judgment seemed quite normal and also his emotional state, his interest and his memory. In fact his memory was found so excellent that the boy was able to memorize stories from a child's book in comparatively short time and in repeating these led a stranger to believe that he was reading the stories from the book. However the course of the

Binet examination confirmed the finding that the boy was unable to read. He was unable to recognize any of the letters of the alphabet with the exception of a, g, i, l, o, r. Also it was discovered that he was unable to write. Hence an investigation into the aphasic status of the case. The 15 questions suggested by Tilney were used.

Question 1.—Can the patient speak spontaneously in ordinary conversation?

Answer.—The patient can speak and converse with intelligence but he lisps and is indistinct in enunciation.

Question 2.—Can he enumerate, denominate and name objects?

Answer.—He can enumerate without difficulty. He can denominate and name objects without difficulty except the letters of the alphabet aside from a, g, i, l, o, r, and the numerals. He can name objects without difficulty.

Question 3.—Can he speak from dictation?

Answer.—Perfectly.

Question 4.—Can he read aloud?

Answer.—He cannot.

Question 5.—Can he read to himself and understand what he reads?

Answer.—He cannot.

Question 6.—Can he recite what he reads; can he say his prayers?

Answer.—He cannot thus recite but can speak spontaneously.

Question 7.—Can he write spontaneously?

Answer.—He cannot except his own name, which he has been taught laboriously, and two or three simple words like rat and girl which he has also learned to do through laborious attention on the part of the teachers.

Question 8.—Can he enumerate and denominate in writing; write the numbers from 1 to 10; add a column of figures and name objects shown?

Answer.—He cannot enumerate and denominate in writing or write numbers or add a column of figures but he can name objects shown.

Question 9.—Can he write from dictation?

Answer.—He cannot.

Question 10.—Can he copy written or printed matter?

Answer.—Yes, he can copy written or printed matter without difficulty but he is unable to read or understand what he has copied.

Question 11.—Can he hear and understand what he hears?

Answer.—He can hear and understand without difficulty.

Question 12.—Can he see and understand what he sees?

Answer.—He can see and understand what he sees without difficulty except written and printed matter and numerals. He can see these without difficulty but is unable to name them except as already indicated.

Question 13.—Is he aware of errors made in speech or writing?

Answer.—The boy is fully aware of his difficulties in learning to read and write and feels ashamed of his infirmity.

Question 14.—Has he a concept of his speech?

Answer.—The boy has a clear concept of his speech.

Question 15.—Does he misuse words? Is he ungrammatical out of proportion to his education? Does he persevere? Does he speak a jargon?

Answer.—No such difficulties.

In the above list we find that the patient fails in the proper response to questions No. 2 (in part), 4, 5, 6, 7, 8, 9 and 10. We may conclude that we have a subcortical aphasia, sensory in type. It involves mind blindness or alexia on the one hand and agraphia on the other.

### *Resume of Findings*

On the physical side we find nothing of special interest except a brachycephalic skull and a scar central on the lower surface of theinion. The neurological examination is negative entirely, except for the presence of a distinct Babinski in the right foot. Mental examination is noteworthy in that we find alexia and agraphia from deprivation in a boy retarded 2 years. The history of injury to the posterior head regions in childhood with a Babinski in the right foot and these mental findings are suggestive of a subcortical hemorrhage in the left occipital lobe (at or near the angular gyrus).

### DISCUSSION

The following discussion is of interest:

It has never been seriously denied that there is a certain amount of mental defect in practically all cases of true aphasia. Certainly this is true here

Pure word-blindness (pure alexia) does not occur clinically. The lesion producing it is a lesion of the posterior cerebral artery, not of the Sylvian artery as in the other aphasias.

According to Wernicke the theoretical centers concerned in alexia and agraphia are (from Osnato on Aphasia and Associated Speech Problems, 1920), the lower centers for the optical memory pictures of letters and conceptions of writing movements respectively, and a higher center of word conceptions. Alexia and agraphia result when the tract connecting the center for optic alphabet memories and the center of word conceptions are divided; pure literal agraphia would arise from a similar division of the tract directly connecting the center of optic memory pictures with the center of conception for writing



movements. Of these theoretic considerations as well as on the part played by the cortex of the angular gyrus there is no agreement. The location of the lesion causing essential alexia and agraphia, however, is definitely established as one lying in the lower region of the left parietal lobe, that is, the angular and supramarginal convolutions. The operation of the lesion as maintained by Dejerine is through the destruction of the cortical center for the optical memory pictures in the gyrus angularis or the fibers leading therefrom. Wernicke denies this and as proof of this contention calls attention to the fact that if a center actually existed the occurrence of pure isolated alexia and agraphia would be frequent, whereas in reality it is extremely rare. Wernicke describes the essential lesion of alexia and agraphia as a focus situated deeply in the medullary layers of the gyrus angularis, but which has no immediate or essential connection with the cortex of this area. He continues that in alexia the lesion involves the deep sagittal medullary layers of the angular gyrus and destroys the inferior longitudinal bundle, optic radiation of Gratiolet and optic tracts, thus severing the connection between the speech centers and both occipital lobes with resulting word blindness and right hemianopsia. (In our case there is no right hemianopsia.) In agraphia (as with us) the lesion occupies the same general situation, but lies nearer the cortex and divides the fasciculus arcuatus and fibers of the corpus callosum, in which lie the association tracts between the motor cerebral regions and the occipital lobes and lower parietal lobes of the same side, and between the sensory speech center and the lower parietal and occipital lobes of the same and opposite sides.

Gray's Anatomy says that the visual perceptive center clinically known as the center of word-blindness is located in the angular gyrus. Lesion of this area renders the patient incapable of understanding the significance of the words and objects which he sees. As can be seen from the character of our investigation, this description is inaccurate in two particulars, namely, the lack of designating the exact location of the operating lesion and, secondly, in the statement concerning the physiology of the part to the effect that the individual is unable to understand the significance of objects which he sees.

It is claimed by Dejerine, and supported by Bastian and Pick, that the functions of written

language are dependent upon the integrity of a definite center for the storage of "optical memory pictures of words"; that this center is unilateral; located in the cortex of the left angular gyrus, and connected by association paths with the primary optic sensory field in the calcarine area of the mesial and basal surface of the occipital lobes. This conception obviously narrowly constructs the function of written language and tends to regard reading and writing as faculties, in a sense, more or less independent of spoken language and speech conceptions. Dejerine says: "An unilateral focus deeply seated in the medullary structure of the parietal lobe produces a combination of right-sided hemianopsia and isolated writing blindness or alexia; if the affection is disseminated and reaches the cortex of this portion of the brain, agraphia is added to alexia." The accuracy of this statement in general is not disputed by Wernicke and v. Monakow. The latter observers, however, deny the existence of any so-called "optical word center" and claim that the cortex of the gyrus angularis is not at all concerned in alexia and agraphia, but that these disorders result from division of certain association tracts lying beneath the cortex in this region.

Wernicke persistently claims that reading and writing are not independent functions, but are "transcortical subordinated activities from the centers of spoken language," and that hence, "the faculty of writing depends upon spoken language, and is lost as soon as the word conception of internal speech is damaged (cortical and transcortical aphasia) and is retained as long as word conception and internal speech remain uninjured" (subcortical aphasia).

From an excellent monograph, "The Contribution of Visual Imagery to Verbal Thought. A Comparative Study of Seeing and Blind Subjects." By Clara Harrison Town, Ph.D., the following is quoted and helped to arouse the idea that the boy might be helped through the Braille System.

"From the results obtained I judge that the essential element in the visual imagery of words for the spelling process and perhaps therefore for verbal thought in general, is not its form but its relative spacial position, an attribute which the blind secures through touch. This touch spacial attribute seems just as efficacious to the spelling process as does the visual spacial attribute. Perhaps its presence makes possible to the blind just as high

a language development as is possible to the seeing person.

"Second, that visual verbal imagery assists the spelling process rather through its attribute of relative space position than through its attribute of form, and that the attribute of relative space position can be equally well attained through tactual sensations.

Every neurological case must be looked at from a constructive point of view. The first idea was (thanks to Dr. Town's constructive suggestions) that he might be taught a trade involving the use of faculties independent of reading and then as a matter of sequence it was suggested that if here we had a boy who could be taught to use his sense of feeling in a trade, why not substitute this special sense for sight in the attempt at further education. Doctor H. Douglas Singer, then alienist of the Board of Public Welfare, co-operated most courteously and arranged for the admission of the child to the State School for the Blind at Jacksonville. The superintendent of this school naturally never heard of teaching the Braille system to a seeing child, but, nevertheless, appreciated the point after a letter of explanation and the boy was duly admitted.

A month after admission the superintendent wrote the following letter:

Replying to your letter of recent date in regard to X. X. I will say that he entered the third grade and has shown quite a degree of progress in his work.

He is in a Braille class and upon receipt of your letter I asked just what he had accomplished in this new system. She advised me that he has mastered the entire alphabet in Braille and is able to write and read quite a list of words. Of course you understand that he does all this work with his fingers and is not allowed to use his eyes at all. In fact he has been tried out here and found to be very helpless in grasping ideas from a book by use of his eyes. At present we feel very much encouraged and see no reason why he should not continue to make progress.

Two months later the superintendent wrote the following not so encouraging letter:

I have deferred answering your letter until now hoping that I would have a definite and a favorable reply. X. X.'s teacher while at first much encouraged as to the progress he made is somewhat disappointed now in view of the fact that he is unable to form sentences. He learned the Braille alphabet readily and is able to make and read each character without any difficulty whatsoever, but his difficulty seems to be in forming words and sentences. He can put the letters in the words only upon assistance from his teacher. (These statements are interesting and worthy of note. S. D.

W.). He can do anything that he is told to do like making words and building sentences but he lacks initiative. We are beginning to doubt very much our ability to educate him.

Upon this I made the suggestion to blindfold him. The idea was that without the useless attempt to call on his eyes for aid he would concentrate better and make more encouraging progress.

In the beginning he could write a few single words only (such short ones as boy and cat) but after eighteen months of treatment he was able to write the following to his sister:

I am Write to let you know I Would like to get a letter Forn you I am Well and hope you and Andy are the same I Will be Honne Soonn school will let out 28 of May and I Will be home same. it is school time now. I Will cose For this time.  
love and kisses

Brother

Note he interchanges still M and N and also repetitions, transpositions, elisions and omissions are still seen. It seems to one, however, that the trial was fully worth while, as the result tends to show. Still it must be acknowledged that from the psychological and pedagogical points of view the case was marked with partial success only.

#### CONCLUSION

We have here a boy of twelve with rather poor family history with an ominous state in early babyhood. In addition to this, the child sustained an injury over the occipital protuberance while a small child and in this connection note the Babinski in the right foot. Undoubtedly there is an organic basis for this trouble, congenital or acquired or both. Physical examination showed nothing abnormal and the mental examination showed a normal finding with the exception of this state of sensory aphasia with two years of retardation of intelligence as a result. There is no object blindness, but word blindness is quite complete and, with the exception of a few letters, the alphabet could not be recognized. Normal reading was impossible because of these defects. He could write a very few words, including his own signature, and three or four such short words as cat and dog, but he seemed to have obtained this knowledge through the sense of feeling or spatial endowment and not at all from true writing ability. Hence came the obvious suggestion that by special development of the sense of feeling such pabulum might be fed him through this channel as would ordinarily reach his mental equipment through the sense of word and sen-

tence reading. Furthermore, that after the increased elaboration thus brought about he might be able to express himself more fully by the use of his hands in Braille writing (a sort of mimicry). The experiment met with an encouraging degree of success, but still the first anticipations were scarcely fulfilled in their entirety. This case is one of cortical word blindness associated with agraphia. This lesion is believed to be in the white matter of the angular gyrus not reaching the surface and yet not extending deep enough to involve the optic radiations.

Judging from the result in this case destructive lesions in this area interfere with mental processes other than specialized visual perception and agraphia, inasmuch as this case was largely disqualified for that improved elaboration and expression that theoretically might well have followed the attempt to train intensively both the deep and the superficial sensations used in the act of Braille writing to the end that improved association paths might follow. In other words the attempt to substitute the sense of feeling and space for the sense of sight failed to establish clearly that the resulting new associations could replace those associations affected by a subcortical insult in the region of the angular gyrus.

## THE QUESTION OF TONSILLECTOMY IN EARLY CHILDHOOD

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Why is it that in contemplated removal of the tonsils of a child for what seems adequate cause the question so often arises, "is the child too young?" "would it be better to wait until it is two, three, four, five or six years old?" This question is repeatedly propounded to the laryngologist both by the parents and by practitioners.

Of course the thought at the foundation of the query is—Have not the tonsils some special function to perform, especially in early life, and can such possibly functioning organs be removed without ultimate harm to the patient? Has the tonsil in early life, endocrine or a filter function which might be destroyed by too early removal, resulting in some temporary or permanent physical or mental handicaps? Such a thought is indeed serious and it is unquestionably

a thought in the back of the minds of many physicians, and this notwithstanding the fact that thousands of tonsil operations are yearly performed with apparent benefit to the patients.

The literature for the past ten years shows the amazing average of more than one hundred and twenty articles per year on the subject of tonsils. (Keifer.) Of these, roughly speaking, about one in one hundred or 1 per cent. mention tonsillar function. Of these there is one article which is a report of laboratory research work on the tonsillar function by O. Fleischmann. The remaining authors arrive at their conclusions by inference, such as the resemblance of tonsillar tissue to the tissue of certain other glands of known function, or by exclusion.

There have been papers published by Davis, Dick and others upon the bacteriology of the tonsils, but so far no investigation of the relative opsonins of the tonsils or upon the bactericidal or phagocytic activity as compared to other tissues.

The earliest paper on the subject of tonsil function is by Fox, 1885, who concludes that the tonsils belong to the digestive tract and not to the respiratory tract and that their function is to absorb certain elements of saliva in the intervals of meals which might otherwise be wasted. He offers, however, no satisfactory proof of this contention.

In 1888 Spicer and Seaves gave this problem their attention without, I think, arriving at any very definite conclusion in their own minds or conveying such conclusions to the minds of the reader.

Gulland in 1892 made an earnest argument that the organs manufacture leucocytes which are partly carried off by the lymph circulation and the remainder stand guard in the crypts and on the surface of the tonsil against infection, which only can occur when the vitality of the patient is lowered.

Woodhead, Lectures in the *London Lancet* in 1898, printed an article entitled, "Channels of Infection in Tuberculosis." He concluded that the tonsils are the same as other lymphatic glands and functionate in the same way, acting as a protective structure to the respiratory tract, absorbing and preventing the entrance of noxious bacteria to the lower respiratory tract. Up to a very recent day this is one of the most



thoughtful and conclusive contributions upon the subject of tonsillar function.

These studies of twenty to thirty-six years ago are interesting because they show that many years before the indictment against the diseased tonsil was anywhere near as heavy as it is today and long before humanity had begun to be detonsillized, members of the profession already were speculating and observing and attempting to determine its function.

Turning to the more recent contributions having a bearing on this subject, Joseph Beck, 1917, makes the broad statement that with very few exceptions where there are definite contra-indications, whether in children or in adults, the tonsils are better out than in and that he has never seen ill effects from their proper removal.

J. H. McPhedran, 1920, believes that the tonsil has three functions: 1. Mechanical, in supporting the pillars. 2. Blood forming. It takes part in the function of the great mass of lymphoid tissue of the body and assists in the blood formation. 3. It has a protective function. As part of Waldeyer's ring of lymphoid tissue at the entrance of the pharynx it helps to prevent infection getting into the digestive and respiratory tracts and general system by destroying bacteria. Further he believes that it has no internal secretion affecting body growth and that it secretes no enzymes helping digestion of food. He calls attention to the 70 per cent of lymphocytes in the blood and believes that the tonsils assist in production of these cells. This, considering the great mass of lymphoid tissue in the body, would be a minor function.

McWhirter, 1920, believes that the tonsils are the same as other lymphoid tissues of the body and has no separate function whatever.

An interesting contribution on the subject of tonsil function is that by O. Fleischmann, 1921. He noted that Richter had shown that the adrenals, hypophysis and thyroids produce a substance with marked reducing properties. That is, extracts of these glands give a typical reaction with a gold sodium chloride solution; namely, a pink to red coloration of the colloidal gold brine, and states that this reaction is peculiar to the endocrine glands. Fleischmann then following out the Richter technique, produces a tonsil filtrate which gives a colloidal gold reaction similar to that given by the endocrine glands. He also observed that the saliva from the mouth gave

the same reaction but that the salivary glands and saliva direct from these glands did not give the color reaction. The reaction was positive in both healthy and diseased tonsils. He believes that the tonsils must, therefore, bear a relation to glands of undoubted internal secretion and notes that Addison's disease and exophthalmic goiter have been observed to improve after tonsil removal and that acute enlargement of the thyroid and even Bruder's phenomenon have been noted in angina. He therefore concludes that the tonsils are genuine glands of internal secretion, which secretion has marked reducing properties and that it is given in part to the oral cavity and in part to the circulation; that the tonsils are also lymph nodes and functionate as such and warns that the protection of the entire oral cavity resides in the tonsils. He adds that recurrent tonsillitis depends upon the continued virulence of bacteria, remaining in the peritonsillar tissue, from previous inflammation, when the tonsillar secretion has no opportunity to exert its protective action.

It will be seen that while there has been some laboratory research work and considerable thought and speculation as to the function of the tonsil the results are meager, leaving us still some distance from a satisfactory solution of the problem. My own experience while giving my mind a decided bias has not carried me to an absolutely definite conclusion and remembering that the function of the endocrine and other glands was first noted by observations of certain changes in the patient due to the absence of these glands or disease in them, it seemed that possibly something conclusive or at least suggestive might be arrived at by calling this question to the attention of a large number of physicians of standing who were in a position to observe the greatest number of children and especially of children who have been subjected to tonsillec-tomy.

In pursuance of this idea the following questionnaire was written and sent to one hundred of the leading pediatricians and to a like number of representative laryngologists of the United States.

#### QUESTIONNAIRE

1. What do you regard as the physiological functions of the tonsil?
2. Do you approve of the removal of the tonsils of children

- a. under 4 years of age?
- b. under 3 years of age?
- c. under 2 years of age?
3. What indications would you consider sufficient to warrant tonsillectomy at these respective ages?
4. Have you observed ill effects from so early operations?
5. What ill effects, immediate or remote, have you observed where the operation has been properly and completely performed, in respect to the
  - a. metabolism,
  - b. nutrition,
  - c. growth,
  - d. weight,
  - e. respiratory tract,
  - f. cervical glands,
  - g. blood picture,
  - h. mentality,
  - i. disposition,
  - j. development of teeth,
  - k. voice, singing or speaking,
  - l. other ill effects.

As will be seen, the questionnaire goes into considerable detail and maintains an absolute neutrality, being neither for nor against. In all a little over one hundred replies were received about equally divided between the pediatricians and the laryngologists.

Very many of the replies were given in detail and showed much thought and speculation along the line of the questionnaire, and a considerable number wrote long and interesting discussions of the topic giving, in many instances, references to the literature. The tonsillar function was discussed at length and with conviction by a few of those who adhere to the theory of the lymphoid function of the tonsil. A paragraph in a letter from Dr. F. O. Emerson of Boston as typical of these, gives in a precise and clear-cut way his deductions and reason for them. He writes:

Apparently the lymphoid tissue up to ten years of age is functionally active following which it is replaced by mucous and fibroid elements. Until ten years of age it is physiologically more active with the eruption of the teeth and seems to act as protection to the tissues below. That it does so I think is shown by the fact that at this age if the tonsils and adenoids are removed there is often a compensating hypertrophy of the remaining lymphoid tissue in Waldeyer's ring. The lymphoid masses comprising the adenoid and tonsillar tissue naturally disappear during adolescence if not chronically infected and for this reason I do not look upon them in the same way that we would consider rudimentary organs and

for the same reason up until this period I would consider them of physiological use.

In answering question 1, the divergence of opinion is marked as will be seen by the tabulation below:

1. Thirteen believed that the tonsil is a lymph gland and does not differ from other lymph glands in structure or function.

2. Six expressed the opinion that there was an endocrine function the exact properties or effect of which have not yet been clearly determined.

3. Twenty-three thought the tonsil function was protective, that is, having some anti-body content or some filter function.

4. Sixty either thought that the function was undetermined and so expressed themselves, or left this particular question unanswered.

The answers to the second question, "Do you approve of the removal of tonsils of young children" prove conclusively that the great body of opinion among those in best position to judge is not against but for removal of tonsils in young children, when indicated.

Ninety-three answered that they approved of tonsillectomy in young children when indicated. Three laryngologists and three pediatricians disapproved under any circumstances tonsillectomy in children under 5 years of age.

The indications given as warranting tonsillectomy in young children cover a wide range and are as follows:

- |  |                             |
|--|-----------------------------|
| 1. Endocarditis.                           | 11. Cervical adenopathy.    |
| 2. Acute nephritis.                        | 12. Repeated tonsillitis.   |
| 3. Repeated bronchitis.                    | 13. Hypertrophy.            |
| 4. Frequent gastro-intestinal disturbance. | 14. Mechanical obstruction. |
| 5. Aproxexia.                              | 15. Repeated colds.         |
| 6. Cyclic vomiting.                        | 16. Peri-tonsillar abscess. |
| 7. Sinusitis.                              | 17. Neoplasm of tonsils.    |
| 8. K. L. carriers.                         | 18. Backward mentality.     |
| 9. Certain chest and face deformities.     | 19. Malnutrition.           |
| 10. Repeated otitis.                       | 20. Rheumatism.             |
|  | 21. Speech defects.         |

It is submitted that one of these symptoms alone does not necessarily constitute a sufficient indictment against the tonsils to warrant tonsillectomy. It is in many instances necessary that two or more symptoms be present in the same case before an opinion favorable to operation be given.

Question 3. Eighty-three observed no ill ef-

fects; 17 had observed some ill effects, mostly temporary, such as diminished resistance to upper respiratory infection and change in voice.

Taking up the first and most important question one almost feels that all the answers may be true. Certainly it is a fact that the function of the tonsil has not yet been accurately and finally determined. It is also pretty well agreed that they parallel in structure and probably in function a lymph gland. That there may also be endocrine function nobody is yet prepared to disprove for the reason that a certain amount of gland tissue is left at the base of the tonsil and on the tongue and behind the pillars which may be sufficient to carry on the endocrine function even after so-called complete tonsillectomy. The same may be said of a possible anti-body content of the gland.

Many of the answers advise unusual caution in operating upon young children, stating that the indications for operation must be frank and imperative, the inference being that symptoms that might warrant operation in an adult would not always be adequate in deciding upon operation in a young child. This, of course, shows a conscious or a subconscious leaning to the theory or to the possibility that there may be a tonsillar function active in childhood but no longer active in adult life. This theory or possibility is stated in answer to the questionnaire in some instances but not in others.

It has been noted by myself and by several of my correspondents that after removal of the tonsils in the young, of the tissues mentioned above, the adenoid structure just back of the posterior pillars has a tendency to become unduly abundant as if nature were making an effort to compensate what has been lost by the operation. It is argued from this fact that nature finds the tonsils necessary.

In my own experience I have observed no ill effects except a tendency to increased frequency of bronchial attacks observed in my practice in maybe three or four cases in all, not a great enough number to impress one that it had necessarily anything to do with the tonsillectomy. However, since several of the correspondents mentioned the same complication, I am inclined to believe that in a certain very small per cent. this complication occurs. Lynch of New Orleans states that in 14,000 cases of tonsillectomy he

operated on only six or seven cases where he thought the operation had been harmful and followed by repeated bronchitis or change of voice. Lynch's figures would show it to occur about once in 2,000 cases.

The great preponderance of opinion by those who have given the matter any thought seems to be that the tonsils are lymph glands and no more. In this belief the writer concurs with the possible reservation that if there be any other and special function there is sufficient remaining gland tissue of the same structure and presumably of the same function in the lingual tonsil, remnants in the naso-pharynx and masses back of the posterior pillar to "carry on" successfully.

It seems, then, that for the past ten years a great many thousand tonsillectomies have been performed on young children and that the clinical evidence goes to show that these children in the overwhelming majority of cases have lost nothing, have not been handicapped mentally or physically and on the contrary were better for the operation.

#### CONCLUSIONS

1. The tonsils are lymph glands and function as such with a possible endocrine function or anti-body content which if present is carried on by tissue left after operation.
2. The great majority of opinion is that tonsillectomy when indicated either in the young or old is a warrantable and salutary operation and this opinion is sustained by a great mass of clinical experience.
3. In cases where tonsillectomy is indicated in a young child there is nothing to be gained by postponing the operation until the child is older.

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## ENLARGED THYMUS.\*

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The thymus gland has always been more or less a gland of mystery. Little has been known of its anatomy, physiology, or pathology. Sudden death in infants or children has often been attributed to its hyperplasia, but just how, or why, no one has known.

In recent years, however, a great deal of work has been done, both experimental and clinical, and much has been written concerning the functions of this gland. Also, much has been accomplished towards revealing the secrets of its actions, both normal and abnormal; sufficient at least, to enable us to better understand the untoward effects produced by a hyperplastic thymus and the treatment thereof.

The writers will endeavor in this paper to summarize as briefly as possible the sum total of our knowledge of the thymus, and its pathogenesis, as contained in literature; followed by case reports of our brief experience with such conditions.

*Anatomy of the Thymus.* Let us review for the moment the anatomy and physiology of the thymus, thus enabling us to more clearly visualize the pathognomonic picture.

The thymus has its origin in the endoderm, from the third and partly from the fourth bronchial cleft. It has its greatest development during the first two years of life, weighing at that time usually about five grams. The gland increases gradually in size until puberty, at which time its average weight is 15-25 grams.<sup>(1)</sup> During the next ten years it decreases fairly rapidly in size in most individuals and after that gradually. The body of the thymus develops mostly in the thorax, projecting however about 2 cm. above the sternum into the neck. It is a thick mass just behind the first piece of the sternum, resting against the heart and the great vessels, and extending back to the trachea. It extends down the anterior mediastinum lying on the pericardium in one or more long lobes<sup>(2)</sup> on either side of the median line. Still lower down, it reaches on either side into the angle between the pericardium and the pleurae.

These long lobes are composed of various lobules which are in turn made up of numerous

follicles, about  $\frac{1}{2}$  mm. in diameter, comprising two portions, the cortical and medullary. Each of these follicles contains numerous lymphoid cells; in the medulla, however, the supporting reticulum of branched cells is coarser than in the cortex, and this portion contains special nest-like bodies called the corpuscles of Hassal.

The thymus received its blood arterial supply through branches of the superior and inferior thyroids, and the internal mammary arteries. Its venous drainage is supplied by the thyroid and left innominate veins. The vagi and sympathetic nerves furnish its nerve supply.

*Physiology of the Thymus.* The thymus supplies through its lymphocytes an excess of phosphorus in organic combination with nucleins, which the body, particularly the osseous, nervous and genital systems, require during the period of their greatest development, i.e., during infancy and childhood. The nucleins play another important role in the body at large, that of taking part in the autoprotective functions of the body in conjunction with the lymphatic system. Huiskamp has shown that the most abundant protein in the thymus is nucleohiston, which contains 3.7 per cent phosphorus.<sup>(3)</sup> Biedl has also demonstrated that the thymus contains five times as much nuclein as any other lymph structure in the body.<sup>(4)</sup>

*Pathology of Enlarged Thymus.* Our knowledge of the pathogenesis of thymic hyperplasia is very well summed up by Blackfan and Little<sup>(5)</sup> as follows: "In the literature many theories are found, not only regarding the function of the thymus, but regarding the mechanism by which an enlarged thymus induces dyspnea, cyanosis, stridor, convulsions, and death. Whether the symptoms are produced as the result of a specific substance elaborated by the thymus gland, whether they are caused by a gland deficient in specific substances, or whether they are brought about by compression of the trachea, nerves, or great vessels remains at the present time unsettled."

Necropsy reports of cases of so-called thymic death have given us little information. The conditions found were roughly three; the first being a marked hyperplasia of the thymus with an accompanying hyperplasia of lymphoid tissue throughout the body. The heart, aorta, and peripheral arteries are found contracted, while the superficial veins are dilated. In the second type

\*Read before Section on Medicine, Illinois State Medical Society, Chicago, May 16, 1922.

one finds only an enlarged thymus, while in the third instance no hyperplasia of either can be demonstrated.

*Symptomatology.* Dyspnea presents the most prominent clinical picture in cases of thymic enlargement, of either a stridulous or an asthmatic type.

*Thymic stridor* is often congenital, becoming manifest soon after birth during a coughing or crying paroxysm. It suggests the presence of a foreign body, or the wheeze of croup. This stridor is aggravated by the recumbent position, and is somewhat counteracted by lying on the side,

with hyperplasia of thymus, play a prominent part in the clinical picture and aid a great deal in differential diagnosis. In such a condition, especially with any marked dyspneic involvement, one is very likely to find the head thrown back, pupils dilated, swollen tonsils, sublingual tonsils, and adenoids, and a swollen tongue, accompanied by dysphagia, to a more or less marked degree. One should also expect to find hypertrophied lymph-nodes of the neck and axilla. Retraction of the suprasternal space, thorax and scrobiculus, and enlarged superficial veins of the chest frequently are found. Convulsions with



Fig. 1. Case 1. After Treatment.

or sitting up and leaning forward. It may virtually cease after a crying or coughing spell, or it may persist as an inspiratory wheeze, which is greater after feeding. The wheeze may be stationary, or progress towards the asthmatic type. The stridor often makes its first appearance with an acute infection, such as diphtheria, pertussis, or broncho-pneumonia.

*Thymic asthma* may occur as a progressive aggravation of the former, and end fatally. It sometimes comes on without any antecedent symptoms and resembles a violent asthmatic attack, with inspiratory stridor, cyanosis and spasms of the glottis.

*Symptoms other than dyspnea* found in cases



Fig. 2. Case 1. Before Treatment.

or without loss of consciousness depending upon the severity of the attack, may occur with an attack of thymic asthma, and may be one of the most prominent symptoms.

*Thymic death*, so-called, occurs as sudden death, without warning. This may occur at any age, but usually during infancy after violent exercise, excitement, emotion, during surgical anesthesia, after operation, or, even during a slight illness.

*Diagnosis* of enlarged thymus should be based on the following:

1. Symptoms that have just been given.
2. A friction sound—sometimes heard over the compressed trachea.

3. The laryngoscope, tracheoscope, and bronchoscope may aid in differentiation.

4. Percussion is of value in skilled hands. The normal thymic area of dullness is triangular in shape, with the base at the sternoclavicular junction and the apex at the second rib. The area is considered abnormally enlarged if it extends 1 cm. beyond the sternal margin on either side.

5. The x-ray is our most positive method of ascertaining thymic enlargement.

The x-ray findings are quite constant and suf-

normal roentgen shadow lies in the median line, continuous with that of the heart and great vessels. The enlarged thymus casts a dense shadow, extending to either or both sides of the median line and more or less continuous with the shadow of the heart and great vessels. An enlargement to the right may be due to large vessels. According to Friedlander, a normal thymus may cast a widened shadow if the exposure is made while the patient is in deep inspiration. It seems to us that while this might well occur where the enlargement of the shadow was not great, it would

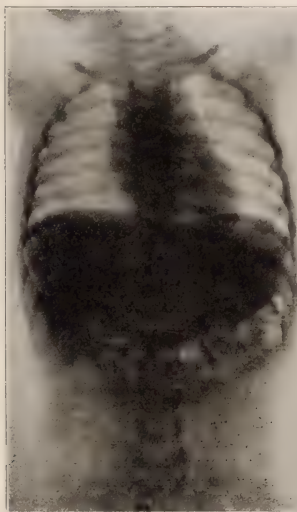


Fig. 3. Case 2 Before Treatment.

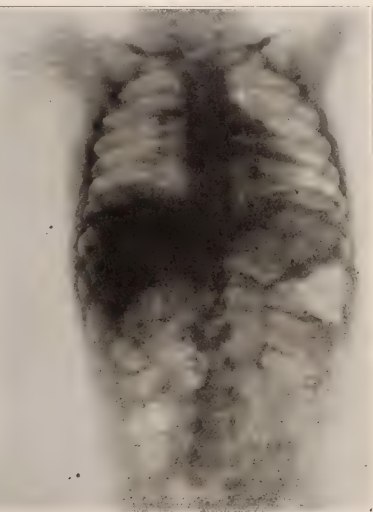


Fig. 4. Case 2 After Treatment.

ficiently accurate, provided only that the technique of exposure be carefully followed. Speed is essential, and therefore double screens must be used. The child is placed upon its back on the cassette holding the film. Assistants steady its knees and shoulders, making every effort to prevent the child from turning on the cassette. The exposure must be made in deep expiration. It should not exceed one-tenth of one second. The radiograph produced by this technique should show the chest areas, i. e., the distances from the median line to the axillary borders of the ribs, to be of equal size, on both sides. Under these conditions widening of the mediastinal shadow can be recognized without much difficulty. The

be next to impossible for such an error in a case such as the first one which we shall report.

*Differential Diagnosis.* The clinical picture of thymic hyperplasia must be differentiated from the following conditions:

- A. Enlarged bronchial lymph-nodes.
- B. Retropharyngeal abscess.
- C. Membranous laryngitis.
- D. Catarrhal spasms of the larynx.
- E. Laryngeal spasm.
- F. Congenital laryngeal stridor.
- G. True asthma.
- H. Heart and lung disease associated with dyspnea.

*Prognosis.* The outlook in any case is uncer-



tain. Any acute attack no matter how severe may recover. Those of the chronic type are likely to have a low resistance, and are liable to sudden death from slight causes.

*Treatment. Prophylactic.* Attempts to prevent the recurrence of paroxysms by establishing a low diet, avoiding violent exercise, cold and hot baths, etc., protecting against acute infections, relieving constipation, and by insuring outdoor life in a mild climate.

*Symptomatic.* The following methods may be of service towards relieving the asphyxia during a paroxysm.

over roentgen treatment. The action of radium seems to be more rapid. One urgent case showed improvement within a few hours. Friedlander reports that most cases improve under x-ray treatment within twenty-four to forty-eight hours. Two of our cases could not have survived this period. Under x-ray therapy, the distance from skin to target is a factor of the utmost importance, and one very difficult to maintain when the patient is a struggling infant. In using radium, the tube-skin distance is constant, no matter how much the child moves about. Likewise, the size of the area exposed is pre-deter-



Fig. 5. Case 3, After Treatment.



Fig. 6. Case 3, Before Treatment.

The upright position.

Cold compresses on the sternum.

Oxygen.

Deep intubation, or tracheotomy.

*Curative.* There are two general methods of treatment, namely surgery, and radiotherapy. Surgical complete or partial thymectomy relieves the symptoms, but in far too great a proportion has a very high mortality.

The application of x-ray, or radium is quite beneficial, without having the untoward results of surgery. The technique of either is quite simple. Either method is beneficial. There are, however, certain advantages in radium therapy

mined and maintained constant much more easily in radium treatment than when using the x-ray owing to the same element of struggling on the part of the child. The technique of roentgen therapy, according to Sidney Lange, consists of the application of 25 milliamperere-minutes, from a tube backing up a  $9\frac{1}{2}$ -inch parallel gap, at a 9-inch target skin distance, the filtration being 4 mm. of aluminum and a piece of thick leather. In mild cases, one such application is made over the anterior chest; in severe cases a similar dose is administered through the posterior chest wall. Such a dose will produce an erythema. The radium technique employed in

treating the cases herein reported was worked out by Arthur Hublein. It consists of applying 100 mg. of radium element, screened with .5 mm. of silver, to each of four areas over the thymus for two hours and thirty minutes, at a tube-skin distance of 15 mm. This dose produced a moderately severe erythema in every case.

### CASE REPORTS

The first case is reported in detail because it represents the most severe type of thymic asthma, and presents most of the classical symptoms of such a condition. Complete clinical and laboratory examina-

tonsils, the cervical and axillary lymph glands, and the sublingual gland were all markedly enlarged. The tongue was so swollen that the child could obtain no breath at all until the tongue was held out after being pierced with a suture. The superficial veins of the chest were definitely enlarged. The abdomen was greatly distended. Convulsive twitchings of the arms and legs occurred very frequently.

The infant was taken to the Methodist Hospital, where it was kept alive by stimulants given hypodermically, oxygen and artificial respiration being used almost continuously. Application of a water moistened cotton pledget to the tongue, caused immediate cessation of respiration and increase of cyanosis,



Fig. 7. Case 4 Before Treatment.

Fig. 8. Case 4 After Treatment.

tions were made on all six cases, but for the sake of brevity we are presenting only the salient features of the other five cases.

*Case I.* Male child, age 2 months; breast-fed; previously regarded as a normal infant.

June 23, 1921, 11 A. M. Babe crying, and refused food, constipated, no vomiting. Temp. 99 F. Throat was red but the tonsils were not enlarged. Chest examination revealed nothing abnormal.

3 P. M. The temperature was still 99 F. It was still crying and refusing food. The tonsils were swollen, and hyperplastic lymph nodes were palpable in the neck and axilla. The sublingual gland was markedly swollen, and very firm on pressure. Chest examination still revealed nothing abnormal.

6 P. M. The infant lay prostrated and cyanotic, with its head thrown back, pupils dilated, a weak and rapid pulse, and a marked inspiratory stridor suggesting obstruction of the trachea. Temp. 100 F. The

thereby demonstrating the presence of a marked dysphagia.

White blood count, 24,600.

Differential count:

Polymorphenuclears .....	13%
Lymphocytes .....	79%
Transitionals .....	8%

Laryngeal and tracheal examination by a laryngologist (Wright Williams) revealed no obstruction. Chest and abdominal examination by a surgeon (George E. Weber) showed nothing more than pulmonary congestion, and abdominal distension.

The large shadow in the thymic region on the x-ray plate (Fig. 1) was sufficient reason, along with the emergency of the child's condition, for the application of radium. Two hours after the final application, rapid expulsion of flatus relieved the abdominal distension, and five hours later the child swallowed with comparative ease one half ounce of breast milk, given

with a medicine dropper. Twenty-four hours later, he nursed his mother's breast with apparently normal relish and efficiency.

N. B. One month later the sublingual gland which had persisted firm and enlarged, suppurated, erupted and rapidly disappeared. Two weeks later double otitis media occurred, resulting in a purulent discharge from both ears, which persisted for twenty days. With these exceptions the child has since been healthy, and normal in every way. (Fig. 2.)

*Case 2. History:* Female child; age 13 months; bottle-fed since birth; has lustic paternal history. The history and symptoms as given are essentially those of congenital idiocy with cerebral pressure. However, the convulsions of which there are four to nine each twenty-four hours evidently involved some other factor. The infant always became quite dyspneic and cyanotic, and could never lie on her back without becoming so. Her mother noticed that the attacks always appeared when the child was lying down, and that the upright position immediately relieved the condition.

*Examination:* Bears out the history of congenital idiocy. Blood, and spinal fluid Wassermann were negative. An x-ray revealed a very much enlarged thymus. (Fig. 3.)

*Clinical course:* Radium applied. Twenty-four hours later a severe toxic reaction developed, which lasted eight days. Two weeks later, a second x-ray showed the thymus markedly reduced in size. This exposure was followed by another toxic reaction of four days duration.

It is now three months since the radium treatment and the child has had no dyspnea. (Fig. 4.) Happily too the child's mentality shows signs of gradual improvement, with the aid of a series of spinal punctures.

*Case 3. History:* Female child; age six months; bottle-fed; of apparently normal birth, growth and development. A rattling had been noticed in the chest for a month. This was accompanied by a chronic cough, but there was no fever or any sign or infection.

*Examination:* A well-developed, well-nourished baby, apparently normal except for a continuous inspiratory stridor. The child seems to get its breath with great difficulty. It is markedly relieved by the upright position. The x-ray showed an enlarged thymus. (Fig. 5.)

*Clinical course:* Radium application was followed within twenty-four hours by signs of improvement. Four days later the stridor has disappeared entirely, and to all appearances the child has been normal for the three months since the treatment. (Fig. 6.)

*Case 4. History:* Male child; age twenty-eight months; breast-fed first eighteen months. This child is a typical trepin, with practically no mental development. It was examined by a prominent internist one year ago, and has been under thyroid treatment since that time with no apparent improvement. One or more attacks of dyspnea have occurred daily for the last eighteen months.

*Examination:* The child shows most of the classical signs of cretinism. It is well developed physically but shows evidence of very low mentality. The x-ray of the chest showed an enlarged thymus. (Fig. 7.)

*Clinical course:* Radium was applied over the thymus on Feb. 25, 1922. Since that time there has been no more dyspnea. (Fig. 8.) Mixed gland therapy was started at once, and the mental condition seems to be gradually improving.

*Case 5. History:* Female child; one month of age; born of luetic parents, the mother also having an exophthalmic goiter. It has been bottle-fed since birth. Previous to the date first seen, except for feeding disturbances, no abnormal condition attracted the attention of the parents. On March 5, 1922, the babe suddenly began to choke, and when seen by the writers was in a comatose condition. The upright position relieved the dyspnea a great deal. In fact the babe could not be recumbent at all without becoming cyanotic and gasping in breaths with great difficulty, and rapidly decreasing frequency.

*Examination:* This patient's condition was practically identical with that of Case I. Repetition of details are avoided to save time and space. Suffice it to say that the x-ray revealed an enlarged thymus.

*Clinical course:* Application of radium gave the patient relief from its great distress within twelve hours, and within forty-eight hours was apparently permanently relieved of its dyspnea caused by the enlarged thymus.

*Case 6. History:* Male child; one year of age; of normal growth and development. There has been a constant rattling in the chest, with dyspnea for the last eight months. It also has frequent attacks of coughing.

*Examination:* A well-developed male infant whose every breath is accompanied by an asthmatic wheeze, which is quite audible at a distance of five feet. The radiograph verified our diagnosis of enlarged thymus.

*Clinical course:* Twenty-four hours after the application of radium, there was a noticeable improvement in the child's breathing. A second x-ray shows a marked reduction of the thymic shadow. The child's condition is also improved accordingly.

## CONCLUSIONS.

1. Cases of thymic hyperplasia are probably more frequent than is commonly recognized.
2. Diagnosis of thymic hyperplasia can be established by the proper combination of clinical and x-ray findings.
3. The majority of these cases are cured, or greatly improved by the proper application of radium energy.
4. Radium seems to have some advantages over the x-ray in the treatment of such conditions.

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# ILLINOIS MEDICAL JOURNAL

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OCTOBER, 1922

## Editorial

### YOUR DUTY, DOCTOR, HAVE YOU DONE IT?

1. Are you more concerned in your own *personal privileges* than you are in your *brother practitioners*?

2. How often do you *attend the meetings* of your Medical Society? What for?

3. Do you assume that the Medical Society will extend to you the benefits of the Association *without any effort* on your part?

4. Do you realize how much *you can do* to assist your brother practitioners in fighting the menaces confronting the profession?

5. If you do realize it, have you *done your part* in helping to combat the evils?

Every physician has an inalienable partnership in his medical association; the prosperity of the organization rests with each individual.

It is essential to alert membership that every individual has an understanding of the needs of the association and a loyalty to carry out its policy, and that you give the keenest co-operation to your fellow members and the officers of the organization.

When you grasp this spirit then will you be

a worthy member of the medical profession and will become a contributor to the force that is necessary to make the organization serve the end for which it was intended.

### WATCH THE CANDIDATES FOR THE STATE LEGISLATURE

The candidates for the Illinois State Senate and Assembly are now all out in the open. The election takes place early in November. Now is the time for you to begin to get in your work. Find out how the candidates feel towards a one standard for entrance into the practice of medicine and what stand they will take on legislative questions that will affect the health welfare of the people of Illinois. Let us not send anybody to Springfield next month if there is any suspicion of their standing in with cultists and who are in favor of giving special privileges to any "cult" or "ism" so that they may enter the practice of medicine in this state by side-door methods and who are not possessed of sufficient medical education. Be careful that no candidate is elected who is in favor of State Medicine in any of its ramifications. Be sure that the candidates whom you support are not affiliated with any of the long-haired men and short-haired women in the

garb of uplifters who are roaming about the State seeking those whom they may devour and who are seeking an easy method to land on the payroll of the State or Nation.

### THE MEDICAL PROFESSION AND THE COMING ELECTIONS

The Public Relations Committee of the Chicago Medical Society has been holding regular meetings for some time past and is now actively at work lining up candidates for the fall elections.

The adopted campaign slogan is, "Uniform standards in medical education for all who practice the healing art."

Members of the branch societies are interviewing all candidates who live in their districts.

It is to be made plain that the medical profession asks nothing but what is for the best interests of the public.

What is good for the people is good for the doctor.

All candidates are to be asked to support a Uniform Medical Practice Act.

The people are entitled to the best and must be protected from the ignorant.

The evils of the Sheppard-Towner Bill and certain other paternalistic legislation will be shown.

The stand of every candidate and the recommendations of the Committee will be published in the *Bulletin* in the near future.

The medical profession will be asked to forget party affiliations and to support candidates who are favorable to good medical legislation.

THE PUBLIC RELATIONS COMMITTEE OF  
CHICAGO MEDICAL SOCIETY.

### THE HISTORY OF MEDICINE AND SURGERY OF CHICAGO IS READY FOR DELIVERY

The History of Medicine and Surgery in Chicago, a volume of 928 pages, with a wealth of illustration, is off the press.

The monument to professional achievement in this part of the world, to the building of which nearly two thousand members of the Chicago Medical Society have contributed by subscription, is now an accomplished fact.

The creation of such a memorial as this, we believe, is unique. We have made permanent

our record of achievement. We are presenting to the world at large that record in worthy form. When the volume is handed to the subscribers within the next few days it will bear with it full value thus for the effort and money expended in its production.

The historical matter, the biographies of men and women of the past, records of institutional development, are comprehensive and authoritative. The presentation of living membership is voluminous, accurate and indicative of the utmost care in compilation and editing. The many hundreds of engravings with which the book is embellished are of exceptionally high quality. The materials and mechanical production are likewise of high excellence.

A promise has been fulfilled. A work long urged and desired has been accomplished.

The material in this book of 928 pages was naturally separated into two parts: History of Medicine and Surgery in Chicago, 1803-1922; and Physicians and Surgeons of Chicago of Today.

The historical portion occupies 371 pages, and contains biographic sketches and portraits of 172 physicians, with historical records of Medical Colleges, Hospitals, Medical Societies and the Chicago Department of Health. The biographic sketches of deceased individuals begin with that of William C. Smith, who was surgeon of Fort Dearborn in 1803. Then follow sketches of the other ten surgeons of Fort Dearborn, the last being Philip Maxwell, who participated in the final abandonment of the fort, December 29, 1836. Portraits are given of five of these medical pioneers.

Then follow sketches of 161 physicians who have in some special measure exerted an influence on the development of medicine in Chicago. There are included "organizers and supporters of medical societies; founders and friends of hospitals and institutions for the care of the sick, unfortunate and aged; and leaders in public health activities." Medical teachers and authors and original investigators who have added to our stock of medical knowledge are included. A few names are absent which might have been added, but the list is most inclusive.

The histories of the Medical Colleges and Hospitals are compiled from materials acquired from reliable sources, and are accompanied by pictures

of buildings. There is a brief history of the Chicago Department of Health. A lengthy history of the Chicago Medical Society, and brief sketches of other medical organizations terminate the historical portion.

The second part consists of short biographic data with portraits of more than 1,600 living members of the Chicago Medical Society, who, as subscribers, made possible the publication of the historical portion of the book. These sketches include date and place of birth, date and origin of medical degrees, positions on faculties of medical schools and hospital staffs, membership in societies, military service, and contributions to medical literature.

The publishers are to be especially congratulated on the fine form of the volume and excellence of the illustrations. A complete index adds materially to the convenient use of the volume.

Copies of the book may be seen and inspected at the offices of the Chicago Medical Society and of the publishers, The Biographical Publishing Corporation, 311 Chamber of Commerce Building. The JOURNAL is informed that a very limited number of extra copies, comprising the overrun merely of the subscribed edition, will be available to subscribers at a comparatively low figure. Requests for extra copies will be given preference in the order of their receipt.

#### AND THEY EXECUTED 8,800 DOCTORS

Just as physicians as a class head the suicide lists of the United States, so do physicians as an educated class lead in the detailed account of the 1,766,118 persons who have been slain in Russia since the communists came into power by the dread "cheka"; that is the secret administrative regime. Figures wired from Riga to the *London Times* on September 2 say: "This total of 1,766,118 persons includes 8,800 doctors, 6,775 professors and teachers, 1,234 priests and 355,250 other intellectuals . . ."

That physicians seem to be *persona non grata* at the soviet table the figures that have just been cited as coming out of Russia should shock back to sanity those doctors in the United States who have been trying their level best to sovietize and socialize the profession in this country.

Those doctors and their cohorts who are stealthily letting down the bars for bolshevistic tactics to crawl in under the United States flag

should take down their family Bibles and read the Book of Esther once again, digesting thoroughly the history of the man named Haman, who built a gallows forty cubits high upon which to hang his enemy Mordecai, but who in the just course of events found himself "hoist by his own petard." In view of these recent figures from the cheka, poetic justice would appear to be well on its way towards the ill-advised physicians who are trafficking by night with the lures of the harpies of the soviet. "They who dig pits shall fall therein" might well be remembered by the men who are about to betray the science of medicine for a comparatively small personal aggrandizement and a few fat political jobs for their friends and their families.

Other authorities than the one above cited state that the "cheka" has killed more human beings than all Russia lost in the great war. The sinister significance of a loss of 8,800 doctors in a country as short of medical skill as Russia is today and where 70 per cent of the population cannot read nor write should not be lost on the selfish would-be bolsheviks of the United States. Where false doctrines are concerned, practice and theory are divorced very rarely.

A Russian woman who has just found refuge in this country wrote in the *Chicago Tribune* of recent date: "When on the night of Nov. 6, 1917, Petrograd and the rest of Russia went to bed, little did the people realize that they would awake next morning in quite a new world; that the old Russia, the civilization of the last three centuries, had ceased to exist and was to be from now on replaced by an order of things political and social which for millions of Russians would mean death by a bullet, by starvation and disease; that they would have to pass through moral and physical tortures, from which there would be no other salvation but a flight from their country into life of exile abroad; that Russia would be ruled by the bolsheviks, not for a few weeks or for a few months, but for years, and, going from bad to worse, would soon be utterly broken down and present in a short time a land where every vestige of civilization would be wiped out, and the population dying by millions because of lack of the first necessities of life."

Syphilis, allied venereal diseases and tuberculosis may be the black and white plagues of the world, but surely bolshevism and its offspring



are the virus of hell itself directed towards the mortal mind and the mortal soul and the genuine brotherhood of man.

### CUT RATE MEDICAL SERVICE

The "cut rate medical man" is an evil as destructive to the economic life of the physician as is the clandestine prostitute to the neighborhood morals. As to genuine charity where it is demanded there is no argument at any time by any physician. But as to the abuse of charity—there is the pinch. It is the abuse, not the use, of medical charity that sends many a general practitioner to the wall during his foreshortened life and to a too early grave from incessant worry over lack of money. There was a case brought to the attention of this office during the summer where the complaining doctor was a man whose letter will bear quotation here and who said:

"Case No. 1. Woman, 30 years, stenographer, no dependents, salary \$35 per week, was treated for three months by a physician, during which time she was taken ill in her room, where this physician visited her twice and from where he took her to the hospital in a taxi at his own expense; at the hospital he visited her for a week and when she was out of the hospital she returned for office treatments. For all of this—about 30 office visits, about 6 hospital calls, 2 house calls and the taxi—he charged her only \$20. Later she went to another physician who refused to treat her except for cash and at a fair rate of recompense. This woman wore a sweater that had cost at least \$30 as a portion of her apparel, and her small purse must have been at least a \$25 one."

Now what kind of precedent had the first physician set?

### PHYSICIANS IN CONGRESS

The National Health Council bulletin announces that of the 531 members of both houses of Congress, only eight are medical graduates. The great majority of the legislators are lawyers and two of the eight physicians are likewise members of the bar. The medical men in the Senate are Drs. Lewis H. Ball, of Delaware, Joseph I. France, of Maryland; in the House of Representatives they are Drs. John Jos. Kindred, of New York, Caleb R. Layton, of Delaware, Ladis-

las Lazaro, of Louisiana, Archibald E. Olpp, of New Jersey, John Wm. Summers, of Washington, and Lester D. Volk, of New York. Six of these are Republicans and two Democrats.

### THE HARVARD MEDICAL SCHOOL PROGRAM IS VERY AMBITIOUS

We are in receipt of a copy of the prospectus of the new department at the Harvard Medical School called "The Department of Public Health." The program is very ambitious. Some things that are considered now public health were formerly considered matters of private health, and we are wondering if this new scheme which is being financed by the Rockefeller foundation but which the Dean of the Harvard Medical School, Dr. Edsall, said in public meeting, has no restrictions put upon it by the foundation, is another attempt to nationalize the profession.

### NOW IT IS THE SUPER-WOMAN NURSE WHO IS TO SUPERSEDE THE DOCTOR

The recommendations of the Rockefeller nursing committee which organization is trying to gain a foothold in Michigan and in our estimation ultimately to submerge the medical profession and completely supplant the garden variety physician by the "super-woman nurse" who is to tell the people, when they need medical aid and then call on the doctor for it. Our old German friend Nietzsche had nothing on the secretary of the Rockefeller nursing committee for ego.

We note with chagrin that the chairman of the Rockefeller nursing committee, the secretary of same and another member of the committee appear on the letter-head of the American Association for Labor Legislation (the old Health Insurance organization) as members of the administrative council. C. A. E. Winslow is chairman, Josephine Goldmark is secretary, and Miss Mary Beard is a member of the committee. Does it show that our old enemies, the advocates of Compulsory Health Insurance, are playing possum?

### IS IT POSSIBLE THAT ENGLAND HAS NOT HEARD OF CHIROPRACTIC?

The Editor of the *Journal* of the Indiana Medical Association says that the chiropractors' schools are so numerous in Fort Wayne that it is difficult to keep track of them, and that the chiro-

practic signs outnumber the signs of all the real doctors put together.

The editor comments on the question of medical education in Great Britain. We quote him as follows:

The British Medical Journal, in launching a campaign to better the personnel of the medical profession, makes the statement that "No one should think of entering this profession who is unprepared to spend \$75,000 on his medical education." Is it possible that England has not heard of chiropractic for the cure of all diseases and ailments from cancer to chicken-pox, the science of which cult can be learned in from three to six months, at a cost not to exceed \$100! Why spend \$75,000! England indeed is "behind the times" if she still believes in long medical courses covering physiology, anatomy, bacteriology, histology, pathology, etc., etc., when such knowledge is entirely superfluous and all that is necessary is a little exercise and training of the fingers to "manipulate" the vertebrae for the cure of any and all diseased conditions! Someone should advise the British Medical Journal of its terrible error in making such a statement.

#### RESOLUTIONS ON THE DEATH OF DR. C. W. LILLIE

At the September meeting of the council of the State Society, September 11, 1922, a committee was appointed to draft appropriate resolutions on the death of Dr. Lillie, East St. Louis, Illinois, late Councilor of the Ninth District. The committee submits the following:

WHEREAS, In the furtherance of His all-wise plan, our God has raised our friend and colleague, C. W. Lillie, to the higher service of His own purpose; and

WHEREAS, Though we bow with reverence to the will of our Creator, we are deeply conscious of loss which earth cannot regain; therefore

*Be It Resolved*, That the minutes of the Council of the Illinois State Medical Society contain this record, our memorial tribute to an esteemed co-worker, Dr. Charles W. Lillie, Councilor for the Ninth District, who died on August 31, 1922. We record the passing of a man who lived for others; a long life of earnest and untiring zeal, through which the brilliant light of faith in his fellowman persisted to the end. Inexhaustible energy, efficient service, loyalty, and faith marked the work of Dr. Lillie for the best good of his profession and its society and for the people of his state and of the community in which he lived.

*Be It Further Resolved*, That a copy of this

appreciation of our loss be sent, in a spirit of mutual bereavement and of sympathy and understanding, to Mrs. Lillie and also that it appear in the columns of the ILLINOIS MEDICAL JOURNAL.

SLOAN,  
NELSON,  
CHAPMAN, Committee.

#### SOME IDEA OF THE COMPETITION DOCTORS ARE EXPERIENCING

##### HANDED OUT BY THE NEW YORK DEPARTMENT OF HEALTH

According to the *Glass Container* for May, 1922, published by the Glass Container Association of America, 70 Fifth Ave., New York City, the following list of non-medical practitioners was furnished their representative by the New York Department of Health:

##### LIST OF NON-MEDICAL PRACTITIONERS

1. Osteopathy ..... Skeletal adjustment
2. Chiropractic ..... Spinal columnar treatment
3. Massage ..... Circulatory stimulation
4. Christian Science ..... Faith (goodness) healing
5. Hydrotherapy ..... Steam and water baths
6. Mechanotherapy ..... Skeletal adjustment
7. Neurotherapy ..... Vasomotor nerve treatment
8. Calorotherapy ..... Hot air or mud baking
9. Naturotherapy ..... Back-to-nature practice
10. Suggestotherapy ..... Allied with hypnotism
11. Hypnotism ..... Invoking of occult powers
12. Spiritism ..... Allied with hypnotism
13. X-ray Treatment .....
14. Physicists' Treatment ...
15. Liver Pad Treatment ...
16. Food Specialists .....
17. Indian Remedies .....
18. Electrical Belt Treatment.
19. Rejuvenators .....
20. Dermatological Institute..
21. Serum Laboratories ....
22. Men's Specialists .....
23. Anatomical Museums....
24. Fountain of Youth ..... Goat-lymph injection
25. Society of Universal  
Science ..... Theoretical cure by human electricity in body

Of these, No. 1, osteopathy, is the only licensed class. Nos. 2 to 12 inclusive, so we were informed, if considered generously, have been proved to possess more or less merit in effecting cures.

According to the American Medical Directory of 1918, there are 15,877 physicians in New York

State and 9,361 in the five boroughs of New York City. According to Dr. Leigh of the Chiropractic Bureau of Information, there are 2,500 chiropractors alone in New York State and 1,500 in the five boroughs of New York City. These figures will give some idea of the competition which the doctors are experiencing.

#### THE PRACTICE OF MEDICINE BY THE CLERGY

According to Dr. Egbert H. Grandin of New York, a movement has been inaugurated for the purpose of legalizing an alleged method of curing disease by the laying on of hands according to the methods employed by Mr. Hickson.

The champion of this movement is the Bishop of New York. He is reported to have given Mr. Hickson every opportunity to demonstrate his methods when he, the Bishop, was Rector of Trinity Church. If this report is true it is time for the medical profession to put aside its conservative attitude and take the field in a campaign of opposition to any plan which seeks to deceive the people. Physicians have been reluctant to enter upon any controversy involving the application of religious faith in the cure of disease through mysticism, for physicians as a class share with the great majority of mankind a profound respect for true religion and so far as religious teaching and practice are applied to the spiritual and moral nature, extend encouragement and support. But the profession as a body understanding the behavior of those diseases which have a recognized pathology, would resent the impious assumption that the operation of natural laws can be suspended by methods which appeal to the emotions rather than to reason. If it could be shown that the Deity is disposed to suspend the known laws of disease, physicians would forsake their arduous tasks and enter the orders of the Church, but experience has demonstrated that certain diseases are inexorable and do not respond in any great degree to the mental or moral attitude of the sufferer. It is, of course, generally conceded that functional conditions can be materially modified or a cure effected through changing the mental attitude. If this phase of treatment is recognized and given its proper application, the psychic effects of good counsel and the encouragement extended by a dominating personality have their proper places.

Some years ago, the movement in Boston which had for its objective the bettering of physical and mental disorders logically employed medicine as its coadjutor and whenever it was found that an organic disease was suspected a physician's advice was sought. This latter movement was misinterpreted and criticised. It did not seem to accomplish all that was expected of it by its supporters, although the motives were good and the practice free from unsound methods.

It is still in operation and is endorsed by physicians and patients. It is respectfully suggested that Dr. Grandin is in error in placing this local effort in the

same class with the plan advocated by the Bishop of New York.

In distinction to the Boston movement many theories and practices relating to morbid condition which have been exploited from time to time, unless founded on scientific knowledge and applied by competent physicians, have been abandoned. The hectic flush of over-enthusiasm has too often preceded dissolution.

The clergy will hold their position of influence so long as they deal with the problems of ethics and religion, but diseased minds, as well as bodies, must in the end be presided over by painstaking and competent physicians. The people must beware of false teachers, even though they are in high places.—*Boston Medical and Surgical Journal*.

#### TOO MUCH MEDDLING A MENACE

Miss Y., one of those young and ardent spirits who has loved not wisely but too well, leaves her home in Oshkosh (her home wasn't in Oshkosh, but Oshkosh will do) to come to Wilmington, where, in the home of friends the disgrace of her confinement may be kept a secret. Poor girl, little did she know what she was getting into. As soon as the birth was reported to the Bureau of Vital Statistics, the information, absolutely contrary to the explicit wording of the law, was turned over to the Child Welfare Commission, who sent their nurse to help keep it clean, take its temperature, record its weight, etc., ad nauseam. The mother didn't want anybody butting in, but she was young and inexperienced, so she had given her right name to the doctor, and later, to the nurse, on inquiry, her correct home address also. The nurse explained afterwards that she "was glad to have the full data, so that the welfare people in Oshkosh could look out for her when she went back home." Poor mother, to be hounded in Oshkosh about having an illegitimate baby, the very thing she came to Wilmington to escape. Does the word "welfare" fit into this case anywhere? How can this poor unfortunate go back to Oshkosh now? Yet, no doubt, her record is already in Oshkosh; perhaps the "welfare" worker has called at the home address and asked about the baby. Do you think the girl's parents can stand the shock? We hope so, but to our minds the crying shame, the big sin in this case is not that of the unmarried mother, but the illegal bandying about of official information. Who is to blame for this? And who will help to stop it?—*Delaware State Medical Journal*.

#### NEW REGULATIONS FOR PRESCRIBING LIQUOR

To Federal Prohibition Directors and Others Concerned:

2. Section 69 of Regulations 60, as amended, is further amended to read as follows:

##### PRESCRIPTIONS ON OFFICIAL BLANK

(c) Liquor may be sold as such on prescription only when and if the prescription is written on an official blank, Form 1403, and otherwise conforms to the requirements of Article XIII as amended, including



the requirement that the name of the druggist shall be written on the prescription in the *physician's handwriting* (italics our): Provided, however, that emergency prescriptions conforming to Section 77 (f) may be filled. A pharmacist employed by any person other than a retail druggist may not fill prescriptions for liquor. Every pharmacist must, at the time of filling a prescription for liquor, indorse on the prescription over his signature the word "Cancelled," together with the date the liquor is delivered. The druggist must preserve in a separate carefully guarded file each prescription so filled.

#### POSSIBLE VIOLATION—NO REFILLS

(d) No prescription may be filled which does not conform to the limitations set out in Section 77 (b) as amended. A prescription for liquor should not be filled if the druggist or pharmacist has a reason to believe that the patient would thereby (on prescriptions from the same or different physicians) secure a quantity of liquor in excess of the amount permissible under said Section 77 (b). A prescription written by a physician for his own use should not be filled. A prescription for liquor may not be refilled.

#### LABEL ON CONTAINER

(e) In every case where liquor is sold on a physician's prescription, there must be affixed to the immediate container thereof a label showing the following:

1. Serial number of prescription blank.
2. Name and address of the retail druggist.
3. Name of the patient.
4. Name of the physician.
5. Kind and quantity of intoxicating liquor.
6. Proof, if liquor is spirituous, if vinous, the percentage of alcohol.
7. Date prescription is filled.
8. Directions for use.

#### LIQUORS USED IN COMPOUNDING

(f) Distilled spirits, wines or alcoholic medicinal preparations fit for beverage use may be used by a retail pharmacist, or a retail druggist acting through a pharmacist employed by him, in compounding medicinal preparations on physicians' prescriptions or otherwise, subject to the quantity limitation of Section 64. If such medicinal preparation is compounded for stock, contains no more alcohol than is necessary for extraction, solution and preservation, and is unfit for beverage use, it may be sold for medicinal purposes only without the necessity of receiving a permit to purchase or a prescription on Form 1403; but if such preparation compounded for stock is fit for beverage use, or contains more alcohol than is necessary for extraction, solution and preservation, it may be sold only (1) pursuant to prescription on Form 1403, or (2) pursuant to and upon receipt of permit to purchase, Form 1410 A.

#### PRESCRIPTIONS NOT REQUIRING OFFICIAL BLANK

(g) The prescription for a medicinal preparation unfit for beverage use need not be written on the official blank, Form 1403, even though potable distilled spirits (whiskys, rum, gin, brandy, etc.) or wine is

to be a component part of the prescribed compound, but the person or persons filling such a prescription (including both the pharmacist and druggist, when the pharmacist is employed by the druggist) will be held strictly accountable for the sufficiency of the medication to render the compound unfit for use for beverage purposes, and such a prescription may not be filled unless the pharmacist (or the pharmacist and druggist where the pharmacist is employed by the druggist) is entirely satisfied that the compound is unfit for such beverage use. Furthermore, on any such prescription the physician must have shown the name and address (including the state and city or other local designation, and the street and number, if any) of (1) the patient, (2) the physician, and (3) the pharmacist (or retail druggist acting through the pharmacist) filling the prescription.

(h) The prescription described in paragraph (g), containing potable distilled spirits as a component part thereof, may not be refilled; when filled it shall be cancelled, filed in a separate file, recorded, reported, etc., in the manner described in paragraph (c) and elsewhere in the regulations with respect to official prescriptions.

#### REDUCING PROOF OF LIQUOR

(i) The proof of liquor used either in filling prescriptions for liquor as such or as an ingredient of a compound shall not be reduced by the druggist either before or at the time of filling, except as indicated by the prescription, and except that spirits other than alcohol may be reduced to 100 degrees proof, and at the time the prescription is filed alcohol may be reduced to any appropriate proof.

#### SPECIAL TAX

(j) Retail druggists or pharmacists selling intoxicating liquors as such or compounds fit for beverage use, whether upon physicians' prescriptions or otherwise, are required to pay special tax as liquor dealers under the internal revenue laws, and to keep special tax stamps conspicuously posted.

3. Section 77 of Regulations 60, as amended, is further amended to read as follows:

#### WHO CAN PRESCRIBE?

Sec. 77 (a) A physician who has filed application, Form 1404, and obtained a permit to prescribe intoxicating liquor, as provided in Article III, may prescribe distilled spirits, wines or such alcoholic medicinal preparations which are fit for use for beverage purposes as are authorized to be manufactured by Article XI, for a person upon whom he is in attendance, if after careful physical examination of such person (or in a case in which such examination is impracticable, upon the best information obtainable) the physician in good faith believes that the internal or external use of such liquor as a medicine by such person is necessary and will afford relief to him from some known ailment. A physician who does not hold a permit to prescribe may not issue such a prescription.

#### LIMITATION ON PRESCRIPTIONS

(b) No prescription may be issued for a greater quantity of liquor than is necessary for use as a medi-

cine by the person for whom it is prescribed in the treatment of an ailment from which such patient is known by the physician to be suffering. No prescription shall be issued for internal or external use by any person within any period of ten days for (1) more than a pint of spirituous liquor, (2) any vinous liquor which contains more than 24 per cent. of alcohol by volume, (3) more than 1 quart of vinous liquor, or (4) any such vinous or spirituous liquor, or both vinous and spirituous liquor containing more than one-half pint of alcohol.

(c) Physicians are not permitted to write prescriptions for intoxicating liquor for their own use, or to use any liquor procured upon prescriptions issued by them. Liquor procured upon prescription may only be used for medicinal purposes by the person for whom prescribed and may not be sold or otherwise disposed of by him.

#### OFFICIAL BLANKS

(d) Prescription blanks, Form 1403, are issued by the commissioner in serially numbered books of 100 blanks each, and may be procured free of cost from the director by any physician holding a permit to prescribe. The blanks are engraved on specially designed water-marked paper, the serial number of the book being shown on each form and also each form being serially numbered from 1 to 100 within the book. Not more than one prescription book shall in any case be issued or furnished by the director to the same physician at one time, nor shall more than one book be issued during any period of ninety days unless the physician shall show to the satisfaction of the Commissioner of Internal Revenue, in the manner hereinafter provided, that for some extraordinary reason additional prescription blanks are necessary.

#### NEW BLANKS

(e) If the physician has exhausted a book issued to him or it is apparent that the number of blanks remaining therein will not be sufficient to meet his legitimate needs during the period of ninety days from the date of receipt of the book, and in the opinion of the physician an extraordinary cause renders necessary the furnishing to him of more prescription blanks during such period, he may file with the director of his state an application addressed to the Commissioner of Internal Revenue, for additional blanks, supported by a verified statement of the extraordinary cause believed by him to exist, and any other evidence he may see fit to submit. The director will investigate the circumstances set forth by the physician as warranting the issuance of additional blanks, and will promptly forward the documents received from the physician to the Prohibition Commissioner with the director's recommendation of approval or disapproval of the application of the physician for additional blanks. If the Commissioner of Internal Revenue shall find upon such written application and recommendation that the physician is entitled to additional blanks, the Prohibition Commissioner will advise the director accordingly, and the director shall thereupon issue the additional blanks to the physician.

#### EMERGENCY PRESCRIPTIONS

(f) No physician shall issue any prescription for liquor not on the prescribed form, and no druggist or pharmacist shall fill such prescription, except that in the case of an epidemic or a sudden and unforeseen accident or calamity, a physician holding a permit to prescribe may issue a prescription for intoxicating liquor upon a form other than 1403 where failure to issue such prescription might result in loss of life or intense suffering, but such a prescription shall describe fully the accident, calamity or circumstances constituting the emergency because of which the unofficial blank is used. Such emergency prescription must be prepared in duplicate and reported each month to the director as provided in paragraph (g). All prescriptions for liquor, whether on the official blank or otherwise, must be written in duplicate, both copies signed by the physician, and must contain all the data called for on Form 1403.

#### STUB OF BLANKS

(g) The prescription blanks issued by the commissioner are printed with stubs attached, the stub of the blank being a duplicate thereof. The books containing the stubs or duplicate copies of prescriptions issued on Form 1403 must be returned to the director from whom secured immediately upon the last prescription blank contained therein being used, or earlier if so directed by the commissioner or director. Any unused, mutilated or defaced blanks remaining in the book (or in the possession of the physician) must be returned therewith. The duplicate copies of prescriptions written on other forms in emergency cases must be forwarded to the director at the end of the month in which issued. In all cases blanks, Form 1403, must be used in the order of the serial numbers printed thereon.

(h) Before issuing any book of physicians' prescription blanks, a director may, whenever it is deemed advisable, have stamped across each blank in the book with a rubber stamp, the name of the state in which the book is issued. When prescription books so stamped are lost or stolen, it will be necessary to issue warnings only throughout the state in which the books were issued.

(i) A prescription for a medicinal preparation unfit for beverage use need not be written on the official blank, Form 1403, but such a prescription must conform to the limitations of Section 69 (g) as amended. The physician need not write such prescription in duplicate, and is not required to keep a record thereof other than such record as he keeps for other prescriptions pursuant to local law or practice.

#### PERMANENT RECORDS

(j) Every physician who prescribes intoxicating liquor is required to keep in book, Form 1402, a record alphabetically arranged of every prescription for intoxicating liquor issued by him, showing the date of the prescription, the amount and kind of liquor prescribed, the name and address of the patient to whom issued, the purpose or ailment for which prescribed, and the directions for use thereof, including the amount and frequency of the dose.

(k) The director should check all copies of pre-

scriptions returned to him, for the purpose of determining whether any physician is violating the terms of the permit issued to him, or whether any person is procuring through one or more physicians excessive quantities of liquor.

(1) All returned books, Form 1403, should be numerically filed by the director.

D. H. BLAIR,  
Commissioner of Internal Revenue.

#### MEDICINE IN 1950

ETHER AND LAVENDER  
THE TREND OF MEDICINE  
Time, 1950

(Suggestions for Ads., for Dept. Stores and Chain,  
5 and 10s)  
Slogan,

"Consult Our Doctors and Take Treatment"

See our list of desirable tonics and cough cures—  
A variety of colors and flavors.

Guaranteed to Please.

Our medical department cannot afford to be overlooked. Get our terms and see our specialist.—You cannot get lower.

You can be X-rayed, spectacted, splinted, osteopathed, chiropracted, massaged, dosed and bossed at attractive rates—3d aisle, right, in the (a) basement.

Leave or send your mouth-measure for a full set of false teeth with Hamburger attachments.

All mail orders promptly filled.

Why delay? See us and discover your ills. Don't remain in crass ignorance and set the whole house in an uproar by falling down stairs and breaking your neck at the age of 92, when by consulting us, it can be made easier for everybody by passing away at an earlier and probably more convenient time in bed.

Staff cabaret and entertainment every Tuesday evening.

R. I. Med. Jour., Nov., 1921.

#### IS THE PRESS AGAINST US?

It used to be the pleasure of the secular press to take an occasional fling at the medical profession, aiming their shafts at this or that shortcoming of medical science, or at this or that medical man. Time was when such attacks occasioned very little notice—they were read by relatively few, digested by fewer still, discussed by still less, and acted on by practically none. But times have changed, and it behooves our honored profession to take cognizance of this fact. The World War was not merely a military cataclysm, it was the turning point in all history of economic and social theory and practice. It is safe to say that nowhere in the whole world will conditions eventually emerge on a firm basis in exactly the same detail or proportion as before. New conditions have arisen, and many of the old ones demand a newer and better solution. In this transitional period class consciousness has been developed to an amazing degree, and the signs are not lacking that certain groups or classes aim to accentuate this feeling still further. Naturally the chief voice in any issue, campaign or

propaganda is the voice of the public press, and to judge by the utterances of part of the press in their espousal of certain classes, we propose the question: "Is the public press against the medical profession?"

From a personal standpoint, medical men as a class can have little or no grievance against the press. Our personal exploits, travels, social doings, etc., get as much notice as do the same activities in others. Besides, our professional advances and adventures actually suffer from publicity; from too much space; with the seemingly inevitable characteristic of inaccuracy. As a matter of fact, nothing that a newspaper prints is quite so ridiculous as its layman's report of a medical subject. Nothing in the whole realm of journalism illustrates more aptly Pope's lines:

"A little knowledge is a dangerous thing;

Drink deep! Or touch not the Pyrean spring."

Indeed it were well should all editors be required to hold the degree of M. D. We assure them they would learn many things besides the mere recognition, treatment and prevention of disease!

The question proposed, then, does not concern the news columns, but applies to the editorial page, whose columns all too frequently refer in unfriendly terms to the medical profession. This brings us back to the subject of class consciousness. Medical men, the press insinuates, desire to be in a class to themselves. We are in a class to ourselves; we do not deny it; we do not excuse it; rather in a negative way, we glory in it as being first, the only class in the world that persistently endeavors to restrict its means of livelihood, by eliminating disease, and, second, the only workers to be found anywhere who contribute one-third of their time, energy and skill to mankind, *without pay!* Imagine the lawyers letting the public get away with one-third of *their* services without pay! Or the corner grocer; or the coal dealer; or the telephone company; or anybody.

Now, class consciousness of this type, instead of being archaic and reprehensible, seems to us to be very commendable, but the press seldom if ever mentions those little things, or makes any effort to better the lot of the harried physician. On the contrary, as the mouthpieces of the proletariat (in other words, the majority of their subscribers) they take it for granted that the supreme effort of the profession is, or should be, to contribute even more. We are to make this contribution by assisting at ridiculously low or no pay, any and every alleged uplift movement; by voicing no protest when the practice of medicine is assumed by nurses; by remaining silent when medical ethics is knocked into a cocked hat, and by miscellaneous other maneuvers.

This, we contend, is a gratuitous assumption; we simply *must* make a living! In olden days the physician charged no fee, but was paid an honorarium in accordance with the patients' means. This was all very well for that time, especially when we ponder over the fee of \$100,000 paid to Rhazes, the famous Arabian physician, by the Caliph of Bagdad, for one illness. Times have so far changed that the physician must expect remuneration on a more or less fixed



standard for the service rendered, and it is just here that the class consciousness of the medical profession shows its only baneful effects, and on the profession at that; for our one-third charity makes us the easy marks for a large proportion of the other two-thirds, of whom we do expect pay, and from whom we should receive pay. But since we so often do not, we may here parenthetically reiterate the truism that medicine is fast becoming a rich man's game, and that in another generation only the sons of the wealthy can aspire to a medical education and independent practice! To hang out your shingle with its glittering M. D. costs you two years in college, four years in medical school and one year in hospital internship, as the minimum, all of which has been computed to represent an economic investment of well over \$25,000. This is the overhead expense under which the medicus starts work. The interest on his investment is \$1,500 per annum, and till he has collected this sum he has not one cent of profit, and yet many a doctor forgets all about overhead when he figures his profits, and considers his gross collections, less his office rent, telephone and other current professional expenses, as his net. What damnably rotten business men we are!

What has all this got to do with the daily press and its relation to our profession? Simply this: The daily press doesn't know what it's talking about, and the rambling remarks of the foregoing lines are intended to sketch in a little background, so that we can tell them what is on our mind. The press, as aforesaid, champions all alleged public benefit propositions, because the proponents say their scheme, agency or bill will do this or that for the poor people. And what they champion is something that the medical profession either can not, or will not, give to those who can not pay their way; at least, so say the reformers. This unquestioning advocacy of any and all such schemes, whether fathered by long-haired men or mothered by short-haired women, merely because the aims seem worthy, is unfair to the medical profession. Let the omnipotent and omniscient editors of our daily press come forward and cite the actual cases of the poor who are turned down by physicians just because they could not pay; the cases that are always stuck up as being the reason for this or that bill, clinic, dispensary, center or what not. The doctors, with few exceptions, do the very things that all these movements claim they will do, and we contend they do them better and, in the last analysis, cheaper.

A local daily, in an inspired editorial, recently admonished the profession to beware, and place no obstacle in the way of the Child Welfare work, asserting that "this movement was bigger than the medical profession!" Is it? Is any movement whose very life depends upon physicians bigger than the profession that furnishes physicians? Is a part greater than the whole? It is to laugh! And the editor of said daily wants to turn over; he's snoring! And yet this editorial is only typical of many similar ones that have come to our notice. The catch phrase "child welfare" strikes a responsive chord in every normal person's heart and mind, and most of us doctors are normal.

The managers of this particular movement make the avowed statement that theirs is to examine and not to treat. (This hoax is getting threadbare.) In spite of the fact that their legislation provides only for the guidance of the well child, and has nothing to do with treatment for the sick one, the press seems to think that weighing the well child by the commission's nurse is more important, is "bigger," for example, than the doctor's treatment of the typhoid in the father who feeds and clothes the child. Can you beat it?

The same general press support of the maternity bill, which is for propaganda alone, and not one cent of whose funds can be spent for treatment, has illustrated very forcibly the point we make. We, the medical profession who deliver the women, are scolded, scoffed at and reviled, because we object to the waste of public money that takes place whenever a bunch of fanatic old maids hire a hall and try to tell our womanhood when, where and how to have their babies! And, after that, how to raise them! Of course, it is all wrong, but a cowardly Congress afraid of the female vote, having passed the bill, the job-hunting she-preacher mounts her rostrum, and the party is on, with the press shouting, "Alleluia, it's a boy!" in one column, and damnation to the medical profession in the next.

Other bills, other movements, might be mentioned, but why prolong the agony? The patent fact remains that the medical profession has lost caste with the daily press; it may be we have lost caste with the public, though that does not yet appear, on the surface at least. The press seems to feel that we are opposed to movements aimed at the public weal, and for selfish reasons; this is unfair to us, for it is manifestly not the truth. We, alone, are working to cure disease, and to prevent disease, whether we get paid or not. When it so freely prates of medical opposition to the public good, the press is supporting the bulk of its readers in their increasing forgetfulness in medical financial matters and holds us up as a class all of whom make fine incomes and hence should sacrifice still more. The sad truth is that, according to official government figures, the average cash practice in medicine in this country yields \$800 per annum, a sum scorned by butchers, blacksmiths, milkmen, etc.—*Dela-ware Medical Journal*.

#### CANCER AND THE KITCHEN

Cancer originates in the kitchen, according to Dr. Frederick William Alexander, a London health officer, in a report on cancer, its cause of prevention. Dr. Alexander's report is issued to allay general nervousness in England over the fact that deaths from cancer, at present over 40,000 annually in England and Wales, are rapidly increasing. This increase he explains as due to the "refinements" of modern cooking. Culinary art, which is the pride of our epicurean generation, is set down as man's worst enemy in this particular respect and, according to the London authority, to boast of a French chef is the equivalent of bragging about a hangman as one's best friend. Cancer in its most common form, Dr. Alexander points out, is due

to a deficiency of potassium salts in the body. This deficiency has been increased of late years with the advance of the art of cooking, which pleases the palate at the expense of the individual's well-being. The "refinements" of the culinary experts generally involve improper cooking methods which allow the potassium, the essential constituent of bodily tissue, to escape down the drain instead of being retained for the table. The result is a feebleness resisting power to the disease. Dr. Alexander, in scouting the theory of heredity in cancer, puts forward the interesting contention that, if the disease seems to persist from generation to generation, it is because the cooking methods of one generation are passed down to its successors. He suggests that steaming instead of cooking will preserve the necessary potassium.—*American Medicine*.

#### FLUMERIN—A NEW MERCURIAL FOR THE INTRAVENOUS TREATMENT OF SYPHILIS

This paper by Edwin C. White, Justina H. Hill, Joseph Earle Moore and Hugh H. Young, Baltimore (*Journal A. M. A.*, Sept. 9, 1922), deals with a new soluble mercurial drug of low toxicity and of remarkably nonirritating character when injected intravenously. The complete chemical name—hydroxy-mercurifluorescein—has been shortened to flumerin. This drug is said to be effective in eradicating experimental syphilis in rabbits in doses which are well tolerated. Even in large doses, it causes little or no clinical injury to the kidneys of animals. In ninety-six human cases, definite proof of its value as an anti-syphilitic drug has been given. Doses containing from eight to twenty times the amount of mercury present in the therapeutic dose of other mercurial drugs commonly used intravenously have been given with impunity, and the maximum dose which may be employed serially in the human being has not yet been determined. The therapeutic effect of the drug has been shown in primary, secondary and tertiary syphilis by the resolution of lesions and the reversal of positive blood Wassermann reactions. The number of cases treated is sufficient to demonstrate that this mercurial is of value, but is too small to permit the allocation of the drug to a definite place in the therapy of syphilis.

#### UNRELIABLE COLLECTION AGENCIES

Some weeks ago THE JOURNAL published in the Propaganda Department two short articles, each dealing with a collection agency about which complaints from physicians had been received. These articles, apparently, stimulated many physicians who had had unpleasant experiences with these and other collection agencies to write to THE JOURNAL. From these reports it seems there are two tricks practiced by certain agencies that are especially exasperating. The first is that of incorporating in a long and verbose contract a clause, easily overlooked by the physician, to the effect that, should the physician wish to withdraw any of the accounts he has turned over to the agency, he

must pay the agency the full commission on each account. Letter after letter has come in, from physicians who have signed such contracts, complaining that their delinquent patients have been bombarded with crude form letters which have simply aroused ill feeling to the point where the physician would rather cancel the debt than continue "dunning." He finds, however, that he cannot do so without paying to the collection agency an amount in cash equal to the commission this agency would have received had it enforced payment in full of the account. Another scheme that is much resented by physicians is that of obtaining accounts under false representations. A representative of a collection agency comes into town and assures the physician that his company does *personal* collecting and states, or leads the physician to infer, that the entire business of collecting the old accounts will be done by a representative of the agency through personal solicitation. After the accounts have been turned over the physician finds, to his cost, that the concern employs the usual series of stock dunning letters, most of them of such a character as to arouse resentment in the debtor rather than cause him to settle his account. There is no recourse, however, because the misrepresentation has been verbal, usually without witnesses, and the contract which the physician signs contains nothing to indicate how collections will be made. But all the fault is not on the side of tricky collection agencies. Too many physicians sign contracts with these concerns without giving due thought and study to the contract. It is not a bad plan when these gentry comes around to tell them to leave a copy of their printed contract for twenty-four hours so that it may be studied and then come back for a decision. Meanwhile the physician may consider whether or not, in the long run, he will not do as well by employing a local concern.—*Jour. A. M. A.*, Sept. 23, 1922.

#### THE LEGAL STATUS OF CHIROPRACTIC\*

Hon. John G. Dyer, New York City, in the New York State Journal says, Chiropractic as a means of treating disease or physical condition has become so active in the State of New York that inquiries are constantly being made concerning chiropractic as a system of treatment and concerning the right of the chiropractor to treat patients under the law. All references to the legal status of the chiropractor and chiropractic in this paper are meant to apply to New York State only. The practice of medicine is defined in the Public Health Law of this State and is as follows:

"A person practices within the meaning of this article, who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition, except as hereinafter stated, and who shall either offer or undertake, by any

\*From a paper read before The Medical Society of the County of Kings, on Feb. 21, 1922, by John G. Dyer, Counsel to the Society.

means or method, to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition."

Under the statute the word "physician" means a practitioner of medicine and of osteopathy. The statute further provides that no person shall practice medicine unless registered and legally authorized to do so. The law provides the requirements for examination, license and registration of the medical doctor and the osteopath. The unlicensed practice of medicine is a misdemeanor, punishable by fine and imprisonment, or both. The specific exemptions of importance are made as to physicians in certain military service, certain hospital service, and persons manufacturing and fitting certain mechanical appliances, persons practicing dentistry, optometry and chiropody or administering family remedies or practicing the religious tenets of any church. The burden of establishing his legal right to practice medicine is upon any defendant charged with unlicensed practice.

Peo. v. Somme, 122 App. Div. 20, Affirmed 190 N. Y. 541.

And likewise that he comes within the exemptions provided by the Statutes. With the value of chiropractice as a means of treating physical conditions the writer is not interested. Chiropractice may or may not be beneficial. The writer is only concerned with the right to practice chiropractice and the legal rights of the chiropractor in New York State. It may be fairly well assumed as a legal fact, that the licensed physician, whether he be a medical practitioner or an osteopathic practitioner, has the right to treat his patients by the system of healing, commonly known and called chiropractice. It may be stated in a general way that chiropractice is the treatment of physical condition by the extraneous application of force, usually, if not always, through the hand, to the spine of the patient for the purpose of affecting nervous centers to the end that proper **adjustment** will be effected. Many definitions of chiropractice might be inserted here which would be sufficient to avoid any criticism of a fair statement of what chiropractice is. The writer does not deem this necessary for the reason that, as heretofore stated, he is not interested in the theory or actual practice of chiropractice, but only in the legal right of the chiropractor. In many cases the chiropractors themselves differ in their statements of what chiropractice is and what its effects are. It may further be well accepted that the purpose of chiropractice is to either cure or treat or alleviate human disease, pain, injury, deformity or physical condition. It unquestionably is a system of healing, using healing in its broad sense. The statutory definitions of the practice of medicine have been explained in the decisions of the Courts of this State. In the case of Peo. v. Allcutt, 117 App. Div. 546 Affirmed 189 N. Y. 517, Mr. Justice Clarke said: "To confine the definition of the words 'practice medicine' to the mere administration of drugs or

the use of surgical instruments would be to eliminate the very cornerstone of successful medical practice, namely, the diagnosis. It would rule out of the profession those great physicians whose work is confined to consultation, the diagnosticians, who leave to others the detail of practice. Section 140 of the Public Health Law provides that 'no person shall practice medicine . . . unless licensed by the Regents and registered,' and Section 146 of the said statute (as amended by Laws of 1901, Chap. 645), provides that the Regents' examinations must be made up of 'suitable questions for thorough examinations in anatomy, physiology and hygiene, chemistry, surgery, obstetrics, pathology and diagnosis, and therapeutics, including the practice and materia medica.' Diagnosis would, therefore, seem to be an integral part of both the study and practice of medicine, so recognized by the law as well as common sense. The correct determination of what the trouble is must be the first step for the cure thereof. It is a well-known fact that the disease popularly known as consumption may, if discovered in time, be arrested, if not entirely eradicated from the system, by open air treatment in the proper climate, and that in such case use of drugs has been practically given up. Would the physician, in such a case, who, by his skill, discovered the incipient disease, advised the open-air treatment and refrained from administering drugs, not be practicing medicine? It may be difficult, by a precise definition, to draw the line between where nursing ends and the practice of medicine begins, and the Court should not attempt, in construing this statute, to lay down in any case a hard and fast rule upon the subject, as the Courts have never undertaken to mark the limits of the police power of the State or to have precisely defined what constitutes fraud. What the Courts have done is to say that given legislation was or was not within the limits of the police power, or that certain actions were or were not fraudulent."

In that case the defendant was the practitioner of mechanoneural-therapy and treated without drugs. That the statute may be violated by the practice of medicine illegally without drugs is so clearly established in this State that the writer will not refer to any specific cases. The chiropractor does not claim any right to administer or prescribe drugs but on the contrary specifically denies their value. The right of the State to determine the qualification of persons practicing medicine and to pass prohibitory regulations has been well stated in the case of Peo. v. Mulford, 140 App. Div. 716, affirmed 202 N. Y. 624. The Court quoted with approval the words of Dent. v. West Virginia, 129 U. S. 114.

"The power of the State to provide for the general welfare of its people authorizes it to prescribe such regulations as, in its judgment, will



secure or tend to secure them against the consequences of ignorance and incapacity, as well as of deception and fraud. . . . The nature and extent of the qualifications required must depend primarily upon the judgment of the State as to their necessity."

All chiropractors who are not licensed either as doctors of medicine or doctors of osteopathy are practicing medicine within the definition of the practice of medicine and the decisions of this State on what constitutes the practice of medicine. As such practitioners the absolute statutory requirement is that they be licensed in order to perform their acts legally. Without resorting to specific decisions in the cases of chiropractors convicted for practicing medicine unlawfully, it may be said as a definite and absolute fact that the practice of chiropractice by an unlicensed individual is an absolute and unqualified violation of the present law of the State of New York, and the chiropractor is absolutely and undeniably guilty of a misdemeanor when he practices his specialty. However, this statement is not a dogmatic one on the part of the writer. The Courts of Special Sessions in this city have convicted and sentenced at least fifty chiropractors during the past ten years. The Appellate Division of the Supreme Court in the case of *Peo. v. Ellis* has so held. In that case *Ellis* claimed to be a chiropractor or doctor of chiropractice, having graduated from an institute at Davenport, Iowa, known as the Davenport Institute of Chiropractice, in June, 1912. In July following, without having any further examination or receiving any license in this State, he began practice in Brooklyn. He had a sign, with regular office hours, and as witness he admitted having treated about two hundred patients for ailments of the stomach, chest, and spine; also for nervousness, hysteria, and diseases coming from pressure on the nerves. The Court held that the defendant was guilty of a misdemeanor, for which he had been convicted. This doctrine was again affirmed in the case of *Peo. v. Robert Pauwels*, a chiropractor, recorded in 177 App. Div. 907. The writer desires to state that in his experience, men seeking to be licensed to practice chiropractice in New York State are, in the great majority of cases, uneducated, ignorant, and with little or no scientific knowledge. In the majority of instances they are graduates of alleged schools which give courses by correspondence or through "professors" whose education is wholly deficient. The duty of suppression of the illegal practice of medicine undoubtedly belongs to the State. The State has, however, by statutory provisions, designated certain powers to State and County Medical Societies. The active use of these powers in the prosecution of the unlicensed practice of medicine requires the expenditure of money. The real reason that the chiropractor is able today to flaunt the practice of his alleged profession in defiant violation of law is that the medical men do not spend the necessary money to

investigate and prosecute the complaints of unlicensed practitioners. Because of the natural desire for privacy of the individual treated by a chiropractor, the use of witnesses in prosecution of treated individuals becomes very difficult. The citizen does not desire the annoyance of prosecution. Complaints must be made by practical necessity by detective agents. The police of the State are at present so taxed by conditions that the investigation of alleged violations of the medical-penal laws are practically confined to those which charge the commission of felonies. So long as there are ills to be treated there will be men who will seek to treat these ills by alleged specialties. The duty of investigating the specialty and prescribing the character and qualifications and limitations of men who treat the human body must of necessity be a function of the State, to be performed through its educational authorities. The burden is upon the licensed medical men to take an active and militant interest in proposed statutes affecting the general control of public health. Such militant action will prevent the licensing by statutory exemption of the fraudulent fakirs who seek the right to treat a suffering public without the necessity of acquiring any academic or scientific education as a preliminary requirement.

#### WE ARE TAXED FOR THE RIGHT TO USE THERAPEUTIC AGENTS

##### A FEATURE OF THE HARRISON NARCOTIC ACT

In a decision of the Supreme Court, written by Chief Justice Taft in denying a writ of error based on the charge that the indictment failed to charge that certain defendants sold inhibited drugs knowing them to be such, the court reversed the judgment of a lower court. The explanation is given that the statute does not make such knowledge an element of the defense. "Again where one deals with others and his mere negligence may be dangerous to them as in selling diseased food or poison the policy of the law may, in order to stimulate proper care, require the punishment of the negligent person though he be ignorant of the noxious character of what he sells."

In the opinion it is further stated, "The Narcotic Act has been held by this court to be a taxing act with the incidental purpose of minimizing the spread of addiction."

This last exposition of the law sustains the interpretation which physicians have made. We are *taxed* for the right to use therapeutic agents. Because others make improper use of these agents is no valid reason why the government, in all fairness, should impose a tax for revenue. All right-minded physicians endorse all proper methods designed to do away with the evils of drug addiction, but when the government taxes physicians engaged in ethical practice for the purpose of providing it with funds for protecting the people from harmful drugs, it might go much further and levy a special tax on the surgeons' knives because some persons use knives in taking life. The

registration of physicians with the right conferred to use narcotic drugs is logical, but the revenue tax is abhorrent and should be repealed. Doctors have contributed inestimable services to the nation and individuals and about all the public reward bestowed is exemption from jury duty. The degree of ability and industry exhibited by physicians, if applied in other walks of life, would average larger returns than those enjoyed by physicians and yet we must be taxed. Lawyers are not taxed to create a revenue which could be applied to controlling the shyster or any other class of criminals, but doctors are complacent and submit to exactions which are unjust.

As laws are enacted in the future the attitude and activity of the newly created legislative body of the A. M. A. will be watched with interest. We have not been able, as individuals, to protect ourselves. Will our representatives be more efficient?—*Boston Med. & Surg. Journal*, August 31, 1922.

#### IF CONGRESS HAD INTENDED TO EXCLUDE PERSONAL ATTENDANCE AT PHYSICIAN'S OFFICE, IT WOULD HAVE SAID SO

##### COURT DECISION REGARDING PERSONAL ATTENDANCE ON PATIENTS BY PRACTITIONERS UNDER HARRISON ANTI-NARCOTIC ACT

In a prosecution for violation of the Harrison Anti-narcotic Act, the evidence showed that the defendant, a physician, dispensed at his office some morphine to a certain person. The defendant claimed that what he did he had a right to do as a practicing physician. The law provides for the dispensing, without an order form, of drugs to a patient by a physician in the course of his professional practice, and no record is required to be kept of drugs dispensed to a patient upon whom a physician shall personally attend. Under the authority conferred by the law, the Commissioner of Internal Revenue promulgated a rule regarding dispensing of drugs by practitioners which provided in part that "A practitioner is not regarded as in personal attendance upon a patient within the intent of the statute unless he is in personal attendance upon such patient away from his office." In reversing the judgment of conviction and granting a new trial, the United States Circuit Court of Appeals, Eighth Circuit, said: "The power of the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, to make all needful rules and regulations for carrying the provisions of the Narcotic Act into effect, did not confer the power to say that a physician could not personally attend a patient at his office. The enforcement of the act did not require any such rule, and it is contrary to the language of the act itself, which is plain and unambiguous and says nothing about where the patient shall be when personally attended. \* \* \* If Congress had intended to exclude personal attendance at office, it would have said so. \* \* \* The fact of omission is strong evidence that it did not intend to say so. \* \* \* Congress can not delegate legislative power to an executive officer."—*U. S. Public Health Reports*, July 28, 1922.

#### IS LEPROSY INCREASING?

The United States Public Health Service calls attention to the fact that leprosy, though comparatively rare in the United States, must be regarded as a health problem of definite seriousness. In 1902 there were 278 known lepers reported in the United States, while today, in so far as estimates are obtainable, there are from 500 to 1,500 lepers in this country. Of special significance is the fact that a considerable portion of these lepers have been born in this country, and a large proportion of all the lepers are free from all restraint in their human contacts.

The danger of lepers entering this country from foreign ports exists, though it is by no means threatening. The law provides that an alien leper may be deported within three years after his admission to the country. Despite the fact that leprosy is found in all portions of the globe and that the tide of leprosy toward the United States is of considerable magnitude, few lepers are found at the ports of admission, and during the year 1920-1921 only nine were turned back at quarantine.

#### THE KNOWLEDGE OF ENDOCRINE THERAPY

One of the most valuable and yet the most neglected sources of success in medical practice in the present day, says an editorial writer in the *Medical Press and Circular* (March 1, 1922), is that of endocrine therapy. The progress of our knowledge of the endocrine glands during recent years has shown their value for therapeutic purposes, and so important is it that this knowledge should be disseminated that in every medical school a special course should be given on the subject to advanced medical students. The Protean condition in which preparations of the endocrine glands are serviceable—even curative—is generally but little known, despite the mass of literature now extant in which the subject is dealt with. One instance may be mentioned. In a recent text-book under the heading of menorrhagia, in the early days of puberty menstruation, a gynecologist recommends treatment by curettage, caustics, and concludes with the statement that in some cases, in order to save life, removal of the uterus may be necessary. But all this advice is sadly out of date, and shows a strange inadequacy of knowledge of endocrine therapy, for the fact is that in such cases normal menstrual periods can be quickly restored by treatment with thyroid gland preparations, or those of suprarenal extract. Endocrine therapy cannot be neglected in any department of practice. It often fills the gap, restoring health, after failure of the usual methods of treatment. Therein lies its value, and the kudos it brings for accomplishing "cures" which truly gain the reputation of being miraculous.—*American Medicine*, May, 1922.

#### SMILES

The wise doctor will mix smiles with his every prescription, be it drugs or words of advice. Real "smiley" smiles are among the great result-bringing essentials of success.—*Abbott*.

## A \$15,000,000 PLAN TO EDUCATE 400 MEDICAL STUDENTS

Annual report (1921) of the President of Columbia University.

A very serious problem in connection with medical teaching is its rapidly mounting cost. This has already become excessive, and public opinion is not likely long to sustain any scheme of medical education whose cost is so large. It is not difficult to find an explanation of this mounting cost. Just as education itself is the spoiled child of the state, so medical teaching is the spoiled child of education. It is thought unduly critical and unsympathetic to question the wisdom of any proposal to increase the sums called for to carry on systems of school, college and university education, and it seems similarly hard-hearted and unsympathetic to question any proposed expenditure for medical teaching.

Medical teaching is, however, in need of very severe critical examination on the part of those who have a sound knowledge of educational processes and educational experience. As a matter of fact, medical education is about a half century behind other forms of higher instruction. It is laboring with pretty much the same problems that engineering education labored with a generation or two ago, and usually without any reference whatsoever to the teachings of experience as to the solution of these problems. The ordinary medical school curriculum is a thing of shreds and patches and by no means a well-conceived organic unity based upon a clear-cut conception of the aim and scope of undergraduate medical instruction. The heads of departments in a medical school are too often treated as ruling princes and allowed a final authority which is not only harmful in itself but quite destructive of true cooperation between scholars engaged in carrying forward a common undertaking. All this is due perhaps to what may be described as the intellectual isolation of the medical profession. Physicians and surgeons are busy men. They are subject to call by night as well as by day, and their time is in no sense their own. As a result, their contacts are largely limited to men and matters related to their own calling and they often lose the advantage of the stimulus that would come from wider and more numerous contacts. It is essential that a medical school should be in immediate association with a hospital, but it is hardly less important that the medical school should be in closest association with the rest of the university. Teachers and students of medicine would profit greatly by daily contact and association with teachers and students in other fields. Could this relationship be established during the period of medical study it would go far toward breaking down that isolation of the medical profession which is now so common.

A first task is to lessen the rigidity of the departmental system, which is the relic of an outgrown sharpness of division between subjects that in reality are closely interrelated. A second is to overturn the existing curriculum and to substitute a well considered and well organized program of study in its stead; and

a third is to develop and apply those well known methods of teaching that will enable the medical school, without increasing its teaching staff, to care for a larger number of students than at present. The huge capital expense necessarily incurred in establishing and equipping a modern medical school cannot be defended if the number of students be limited to a few hundred. It is not practicable to include in a four-year course of medical study all the information which a medical practitioner will have need to use in the course of his after life. The young man or young woman who has just been granted the degree of Doctor of Medicine cannot be expected to stand where the experienced physician or surgeon stands at the end of a long career. The true aim of the medical school should be to give instruction in fundamental principles and methods, to bring the student in contact with realities, to train him in habits of observation and inference as to physiological and pathological phenomena, and to give him knowledge of where to look for the additional or specialized information that he may need before his own experience has sufficiently widened and deepened to bring it to him. Moreover, it must never be forgotten that the purpose of the medical school is to train physicians and not scientific investigators. It would be a sorry day for the public health and for the public satisfaction if the physician of large practical experience, wide human sympathy and keen insight into human nature were to yield his place to the expert with the microscope and the test-tube. The scientific aspects of medicine must not be permitted to override its human aspects. The medical school of tomorrow will be conceived of as a public service institution to promote the public health and to spread a knowledge of preventive medicine; training in the detection and cure of disease will then appear as an incident in this larger and finer program.

Columbia University has an exceptional opportunity to go forward without delay and without great expense, in carrying out its plan for graduate courses in medicine. The advance in medical knowledge has been and is so rapid that hundreds, and indeed thousands, of practicing physicians and surgeons in various parts of the country are eager to find opportunity to spend weeks or months in catching up with the latest discoveries and methods in the several fields of laboratory and clinical medicine. Study and research of this kind are or should be wholly individual; no two physicians will have precisely the same needs or desires. For advanced students of this type arrangements should speedily be made to announce, in connection with the various hospitals of the city and vicinity and in connection with the various university laboratories, opportunities for advanced and highly specialized study and research. All this would be aside from the immediate problem of the Medical School itself, but it is a legitimate and necessary part of the University's policy of service. These advanced and specialized courses should be placed under the jurisdiction of an administrative board, made up of those who have



special interest in work of this kind, subject of course to the statutory jurisdiction of the University Council.

One of the most noteworthy of recent developments in American life is the zeal with which machinery is designed and built ostensibly to serve various public interests and undertakings, but in reality to control them. Perhaps in no other way is the decline of faith in liberty so clearly marked. An academic wit once defined good administration as the doing extremely well of that which should not be done at all. If this clever phrase is to be applied to public administration it would have to be altered so as to read, the doing ill of that which should not be done at all; for public administration, administration by collective authority, is almost uniformly inefficient and for an obvious reason. In such case artificial choice takes the place of natural selection in the designation of agents, and since nature is wiser than man, particularly political man, efficiency at once declines. In the United States we are, in flat defiance of all our proclaimed principles and ideals, building a series of bureaucracies that will put to shame the best efforts of the government of the Tsar of all the Russias when in the heyday of its glory. We are surrounded by agents, special agents, inspectors and spies, and the people are called upon to support through their taxes in harmful and un-American activities whole armies of individuals who should be engaged in productive industry. When anything appears to go wrong, or when any desirable movement seems to lag, a cry goes up for the creation of some new board or commission, and for an appropriation of public funds to maintain it in reasonable comfort. An infinite number of blank forms must be filled and an infinite number of records must be kept, classified and audited at steadily mounting cost.

For a long time the excellent limitations of the American form of federal government held these movements in check, so far as the national government itself was concerned. When, however, the ingenious discovery was made that the national government might aid the states to do what lay within their province but was denied to the national government itself, the door was opened to a host of schemes. These have followed each other in rapid succession, all urged with a certain amount of plausibility and with an appeal to kindly sentiment, usually supported by vigorous propaganda and zealous paid agents.

So far as education is concerned, there has been over-organization for a long time past. Too many persons are engaged in supervising, in inspecting and in recording the work of other persons. There is too much machinery, and in consequence a steady temptation to lay more stress upon the form of education than upon its content. Statistics displace scholarship. There are, in addition, too many laws and too precise laws, and not enough opportunity for those mistakes and failures, due to individual initiative and experiment, which are the foundation for great and lasting success.

It is now proposed to bureaucratize and to bring into uniformity the educational system of the whole United States, while making the most solemn assur-

ance that nothing of the kind is intended. The glory and the successes of education in the United States are due to its freedom, to its unevennesses, to its reflection of the needs and ambitions and capacities of local communities, and to its being kept in close and constant touch with the people themselves. There is not money enough in the United States, even if every dollar of it were expended on education, to produce by federal authority or through what is naively called cooperation between the federal government and the several states, educational results that would be at all comparable with those that have already been reached under the free and natural system that has grown up among us. If tax-supported education be first encouraged and inspected, and then little by little completely controlled, by central authority, European experience shows precisely what will happen. In so far as the schools of France are controlled from the Ministry of Education in Paris, they tend to harden into uniform machines, and it is only when freedom is given to different types of school or to different localities, that any real progress is made. Anything worse than the system which has prevailed in Prussia would be difficult to imagine. It is universally acknowledged that the unhappy decline in German university freedom and effectiveness, and the equally unhappy subjection of the educated classes to the dictates of the political and military ruling groups, were the direct result of the highly centralized and efficient control from Berlin of the nation's schools and universities. For Americans now to accept oversight and direction of their tax-supported schools and colleges from Washington would mean that they have failed to learn one of the plainest and most weighty lessons of the war. It is true that education is a national problem and a national responsibility; it is also true that it had been characteristic of the American people to solve their most difficult national problems and to bear their heaviest national responsibilities through their own action in the field of liberty rather than through the agency of organized government. Once more to tap the federal treasury under the guise of aiding the states, and once more to establish an army of bureaucrats in Washington and another army of inspectors roaming at large throughout the land, will not only fail to accomplish any permanent improvement in the education of our people, but it will assist in effecting so great a revolution in our American form of government as one day to endanger its perpetuity. Illiteracy will not be sensibly diminished, if at all, by federal appropriations, nor will the physical health of the people be thereby improved. The major portion of any appropriation that may be made will certainly be swallowed up in meeting the cost of doing ill that which should not be done at all. The true path of advance in education is to be found in the direction of keeping the people's schools closely in touch with the people themselves. Bureaucrats and experts will speedily take the life out of even the best schools and reduce them to dried and mounted specimens of pedagogic fatuity. Unless the school is both the work and the pride of the community which

it serves, it is nothing. A school system that grows naturally in response to the needs and ambitions of a hundred thousand different localities, will be a better school system than any which can be imposed upon those localities by the aid of grants of public money from the federal treasury, accompanied by federal regulations, federal inspections, federal reports and federal uniformities.

#### A Thousand Proposed Laws Attempting to Curtail Our Liberties. Standardizing Human Beings

Governor Miller of New York says that the rising issue in the country is the old issue of state's rights.

Perhaps. But it is very likely that another issue will interpose and demand a prior hearing. This issue will deal with the rights of individuals.

The movement to standardize machinery, mechanical processes and the products of manufacture have been attended, hardly observed, by a movement to standardize human beings. Endeavor is made, for example, to make it mandatory that the school child in Maine and the child in Arizona shall be taught the same studies from the same books. A society has been formed in Governor Miller's own state to promote a bill that will specify the names of the dances that young people may dance.

A few weeks ago some one at Washington examined the measures that had been introduced in the house of representatives during the present session and he reported that more than one thousand of them proposed to take away rights that hitherto have been recognized as belonging to the individual citizen.

Behind every attempt to reduce wearing apparel, the common relationships of life and the customs of the race to a formula is the assumption that the writers of the formula are of superior clay and intelligence. To think that way is to think the way of William Hohenzollern, one time king of Prussia and emperor of Germany. Irvin Cobb said that before he would interest himself in predigested food he would insist upon knowing who did the predigesting. Before subscribing to a set of rules for squeezing and altering Americans into a standardized pattern we want to know the writers of the rules pretty thoroughly and just whether it is vanity that is controlling their activities or good will.

Laws that interfere with individual rights—rights that are exercised without harming society, neighbors or other individuals—have seldom been enforceable during the entire career of mankind. But such laws have been of service to certain elements—the kinds that practice blackmail.

Legislators who aspire to get their names attached to new laws, professional reformers who have carried through a good reform and take up with anything that can be called a reform in order that their incomes shall not be cut off, foolish

standardizers and half-cooked societies—these are forcing the revival of an issue as old as the hills. The issue will lead to a definite decision as to what rights an individual may exercise out of his own initiative without respect or reference to the tastes of other people, their prejudices, inherited customs or the standardizing associations to which they belong.—*Detroit Journal*, 6-19-22.

#### Save the Family Doctor

Garrett P. Serviss in the *Detroit Times*, July 11, 1922, says:

I am old-fashioned enough to believe in the "family doctor." I don't want to see the family doctor become an extinct species, and I find encouragement in an address of Dr. Sydney R. Miller as president of the American Congress on Internal Medicine. I use the term "family doctor" as interchangeable with "general practitioner."

The entire field of science today is filled with specialists. No one can deny, and probably no one wishes to deny, the enormous value of specialization as a means of acquiring detailed knowledge and exceptional skill.

The specialist concentrates his attention, as a lens concentrates the rays of the sun, upon a small spot, and the effect is sometimes magical. But the area directly affected is very limited. This, however, is not of consequence if the work be of such a nature that it serves to call wider forces into play. But that is by no means always the case, for often the specialization runs on in a line so narrow, or penetrates so far below the general level, that it remains more or less subterranean, restricts to the specialist himself and out of touch with surrounding conditions. Specialization also tends to a restriction of the mental field.

Dr. Miller strikes a note that reaches every person who may have occasion for medical aid when he says that "impersonality in the practice of medicine inevitably foreshadows loss to the public."

What is meant by impersonality here? It means, as I understand it, something more than a machinelike manner of regarding and treating a patient. In impersonal practice a man, or woman, or child not only serves as a mere "subject" in the operator's or experimenter's hands, but, what is more seriously objectionable, the peculiarities of the patient's case may be lost sight of, while he is treated as if every case must be true to type, i. e., must be so closely like every other case of the same disease that the treatment that suits the typical case should suit all cases.

But I have heard a skillful, experienced "general practitioner," who loved his patients as fellow men, and was loved by them, standing, in every family in his circuit, next in esteem to the members themselves, and hardly in the least behind them—I have heard him say that diseases were like faces, each kind made up of the same feature, but so varied in their combinations that two cases were as readily

distinguishable as were the countenance of the respective patients.

It would seem to the layman that such variations may not always be fully allowed for in the present day practice of referring to impersonal laboratory tests as grounds for diagnosing disease, and this impression gets considerable support from Dr. Miller's strictures on (1st) "A tendency prematurely to accept and apply new laboratory tests of promise." (2d) "The indiscriminate utilization of accepted laboratory procedures that are in reality of value only in a limited domain." (3d) "An improper interpretation of tests of known value through ignorance of their clinical significance." (4th) "An unwise reliance on positive laboratory findings to establish a diagnosis to the exclusion of other data that may, perhaps, be much more important."

It goes without saying that Dr. Miller is making no war on the work of the laboratories or on the specialists; on the contrary, he recognizes that the enormous advance of modern medical science is due mostly to them. But he is thinking of the doctors who go to the sick, the lamed and the discouraged, trying to apply the results of science in the immediate service of humanity. It is clinical medicine, which is taught and learned by practical experience and by personal touch in the hospitals and operating rooms and by the bedsides, that most interests the people at large.

The great cases that the doctors themselves talk about at their clubs are almost always what might be described as triumphs of personality, not impersonality, in the practice of medicine. There are stories of that kind that survive generations and are repeated like narratives of fights and battles long after the heroes of them are in their graves.

It is a libel upon a great doctor or a great surgeon to call him a machine. He is as sure, as accurate, as steady as a machine, but there is something in him that no machine can imitate. It is the personal touch, the personal control, and back of it, whatever the appearances, there is a mighty human sympathy governing all.

No cold, rigid, laboratory rules tyrannize over him. Such a man possesses what Dr. Miller calls upon modern medical education to more fully supply, viz., "altruistic and humanitarian motives as the controllers of scientific ardor."

#### The Relationship of the Medical Profession to the General Public

Dr. James F. Rooney, of Albany, N. Y. President of the Medical Society in the State of New York, before the first district branch of the Medical Society of the State of New York, as per the Medical Record, November 26, 1921, delivered a brief address, in which he said that his friend, Dr. Leitner, said he was going to speak on the relationship of the medical profession to the general public. This was a large subject and it must be understood that one could but imperfectly touch upon the essential points in the time he had allotted

himself. The evolution of the practice of medicine in the last forty years had been much greater than in the preceding seven or eight centuries. The evolution of civilization and the complexity of civilization in that period had been correspondingly great. During this period civilized nations had changed from agricultural peoples to urban communities. The last census had shown that there were more people in towns of 10,000 inhabitants and up than in the country. With this change people had become accustomed to luxury, and not only that, but things formerly considered luxuries were now considered necessities. The type of physician and the type of medical service that forty years ago was satisfactory today was apparently not satisfactory. During this period, owing to the development of medicine, the field had become so wide that only a synthetic mind like that of Helmholtz could compass it. Hence the profession of medicine had split up into a number of more or less (and sometimes one thought less rather than more) correlated groups, denominated specialties. With this there had grown up a demand on the part of the people for service bearing the hallmark "the best medical service." These demands were being made as a matter of right, that was it was being commonly said everywhere and had come to be taken as an aphorism or axiom that every person living in the community had a right to the best medical service. The only question that was left open for discussion was how the best medical service might be made available to all people, meaning this best medical service must be brought within the means of the least affluent of the public. Dr. Rooney declared that he did not believe this statement to be either an aphorism or an axiom. If one considered the corresponding profession of the law, it might be said that every man during his lifetime was only occasionally in contact with the medical profession, but every man and woman was continuously in contact with the law. Why, then, was there not a demand that the best legal service should always be at the command of the whole public? Why was there not a demand that the legal profession as a group should be subsidized by the State in order that we might have "state law" or rather the best legal service at the demand of everyone in the State? The reason, Dr. Rooney said, was quite plain. The medical profession was only a sort of lay priesthood. Primarily all physicians were priests and the priestly idea was still indissolubly an element in the teaching of every physician. The little priestly element that might be present in all of us was the little leaven that leavened the whole lump. The legal profession was originally also a part of the priesthood and early split away. Because the public had always had religion offered freely from the cradle to the grave to all alike, and because medicine had always given its services freely, it was now proposed that the profession of medicine should be subsidized to the people and that physicians should become priests of the State and servants of the people. Sir John Moore, when he



wrote Utopia, and Plato, when he wrote his Republic, had much this idea in mind and in the ideal state without question this plan would be feasible and proper, but we had just witnessed the failure of the attempt to put such a utopian plan into effect in Russia. When one group was subsidized to others a step had been taken on the way to slavery, and with it one must expect in the subsidized group the slave type of mind. What could be done to prevent the chaining of the chariot of medical progress to the wagon of slavery. Thoreau said it was much easier to exact respect than it was to solicit it. He feared the medical profession was making the mistake of soliciting respect. There was one thing that must be done, and that was that the medical profession must unify and solidarize and demand from the public the respect that was due it. Unless the medical profession exacted the respect for themselves that the legal profession exacted, unless it developed the type of authority that the legal profession had taken in relation to its state and national bars it was merely a matter of time until it became submerged on the wave of false and untrue demands on the part of the public. He well understood that he might be saying things today that were apparently entirely different from the pronouncements of certain leaders of the medical profession, namely, that what the public demanded must be given them, that the medical profession as a profession had no rights except in so far as they advanced the interests of the community. There had also been false prophets. We had passed through an era of false prophets. It was only four years ago that they said it was useless for the medical profession to oppose a certain scheme that would have taken into the meshes of its net over 80 per cent of the physicians in this state. Those false prophets had relented temporarily, but there were others. It was a peculiar phenomenon that the rank and file of the profession were directly against this doctrine. It had been given to the rank and file of the profession to see that all these propositions were marble columns erected on bases of sand. The same emergency would have to be met again. There were certain groups that were interested in subjugating the medical profession. He who was not willing to fight continuously for his rights in the end forfeited them. He who would not speak when he might, might not speak when he would. Finally Dr. Rooney urged the medical profession, when these various propositions were brought up for consideration and discussion, not to be overturned by sentiment but to decide for themselves the truth of the statements upon which these various propositions were based.

#### TIRED OF IT

When other lips and other hearts

Their tales of love shall tell,

The newer girl will merely laugh,

And ring the chestnut bell.

— Detroit Tribune.

## Correspondence

### THE ATTENDING PHYSICIAN IS NOT A QUARANTINE OFFICER

Paris, Ill.

To the Editor:

I wish to enter a word of protest against the method of applying quarantine regulations in the smaller cities. As I understand it, the attending physician is required to report all communicable diseases to the local board of health, and it is the board's duty to establish quarantine in accordance with state regulations. When the doctor has made his report his responsibility to the state ceases. There is no law to compel him to enforce the quarantine regulations, and he has no authority in the matter.

Yet there is a tendency to put the entire responsibility upon the attending physician, and if a family breaks quarantine before the supposedly proper period has elapsed the doctor is made the goat. "Why did you let the Smith family out some three hours and five minutes before the regulation time was up?" he is asked accusingly. As a matter of fact, probably the doctor didn't, but it is no more his business than that of the family pastor or the Grand Kleagle of the Ku Klux Klan.

It seems to me that the whole matter of quarantine should be placed upon a commonsense basis. The public should be notified that certain laws governing the control of contagious diseases are to be obeyed just the same as other laws, and that the family doctor has no right either to enforce or modify them. As long as the observance of quarantine is made to depend upon the doctor in charge of the case there will be discrepancies due to the peculiar views and personality of the doctor.

Another phase of the situation at present is that mild forms of scarlatina, whooping cough and chickenpox often are unrestricted because no doctor is called. "If we call a doctor we'll be quarantined" they argue, so they try to get by without medical aid. Mr. Jones, living next door, calls a doctor for his child, for which act he is penalized by five weeks in quarantine and loses his job besides. And so a double premium is placed upon doing without a doctor. In our town while doctors are threatened for neglecting to report cases and browbeaten when patients fail to

observe quarantine, nothing is done to the parents who harbor and hide contagious diseases among their children and have no doctor.

Isn't it about time to place health laws on a par with other regulations and look to the proper authorities to enforce them? It would seem that the doctor has enough red tape to contend with now. Entangled with the Volstead act, the Narcotic law, birth reports and the income tax, he has more clerical work than the clerk of the supreme court. If he must do police duty also, when is he going to practice medicine?

E. O. LAUGHLIN.

NOTE:—The attending physician is not obliged to enforce quarantine. This function belongs to the pay-roll brigade; of course, every physician will aid and assist by giving instructions as to the necessity of observing quarantine. He cannot be held responsible for the patient violating his instructions. We suggest that the Doctor take the matter up with his County Society and fight this autocracy by concerted action.

#### THE EMPLOYER IS ENTITLED TO SELECT A PHYSICIAN

*To the Editor:* Your letter forwarding Dr. Little's communication and asking if the owner of a mine may in case of injury select the physician for the injured is answered in the following communication sent direct to Dr. Little.

September 21, 1922.

Dr. Joseph Manor Little,  
Pana, Illinois.  
Dear Doctor:

Replying to your letter of date September 15, addressed to ILLINOIS MEDICAL JOURNAL, I beg to advise that if an employe in a mine is injured, he is, by virtue of the statute, under the Compensation Act. By the provisions of that Act, the employer is entitled to select a physician to whom the employe must submit for treatment if he desires to impose the expense on the employer. The employe is privileged to select his own physician at his own expense. The Coal Company is not required to pay the bill if the injured servant chooses his own physician.

I trust that this answers your inquiry.

Yours very truly,

R. J. FOLOME,

Attorney Illinois State Medical Society.

#### EMPLOYEES MAY SELECT PHYSICIAN NOT BOUND TO ACCEPT DOCTOR RECOMMENDED BY EMPLOYERS

The Franklin District Medical Society at its July meeting took action in the matter of industrial concerns which hand their employees printed cards telling them to employ certain physicians when they are injured. It was voted to send communications to the newspapers, advising industrial employees of their right to employ any physician they choose. The appended communication is the result of that vote.

*"To the Editor of The Recorder:*

"Owing to the fact that some of our industrial plants see fit to hand printed cards to injured employees, requesting them to go to certain physicians, the Secretary of the Franklin District Medical Society was instructed at the July meeting of the Society to insert in the Greenfield papers a notice to the public informing them of their privilege to employ any physician they themselves may choose for such treatment, regardless of any effort on the part of their employer to influence them otherwise.

"That portion of the Workmen's Compensation Act (General Laws, Chapter 152, Section 30) antipathetic to such free choice of physicians follows:

"'The employee may select a physician other than the one provided by the insurer; and in case he shall be treated by a physician of his own selection, or where, in case of emergency or for other justifiable cause, a physician other than the one provided by the insurer is called in to treat the injured employee, the reasonable cost of his services shall be paid by the insurer, subject to the approval of the department.'

"Yours very truly,

"CHAS. MOLINE, M.D.,

"Sec'y Franklin Dist. Med. Society.

"Sunderland, Mass., Aug. 2, 1922."

—*The Greenfield Recorder.*

—*Boston Medical & Surgical Journal.*

9-14-22.

#### THE PHYSICIAN

But nothing is more estimable than the physician who, having studied nature from his youth, knows the properties of the human body, the diseases which assail it, the remedies which will benefit it, exercises his art with caution, and pays equal attention to the rich and poor.—*Voltaire.*

## Book Reviews

HUGHES' PRACTICE OF MEDICINE, 12th edition, enlarged, revised. Illustrated. Octavo xxiv, 810 pages. Revised by R. J. E. Scott, P. Blakiston's Son & Company. Philadelphia. 1922. Price, \$4.00.

A complete, modern practice of medicine with additional sections on Mental Diseases and Diseases of the Skin. It is compact, concise and most serviceable. It fits easily in your traveling case, instrument bag, pocket of the automobile, desk drawer, etc. It gives in quickly available form the synonyms, definitions, causes pathological anatomy, symptoms; diagnosis, prognosis, treatment, prescriptions, etc. In the preparation of this edition such changes and additions have been made as the progressive development of medical science required. The general arrangement of the first part of the book has been materially modified. The specific infectious diseases are subdivided into four groups: diseases due to bacteria; due to protozoa; due to metazoa; diseases of unknown etiology. This accords with modern views on pathology and etiology. Several new sections have been added, such as those on Trench Fever; Notifiable Diseases; Poisoning by Wood Alcohol; Acidosis; Functional Activity of the Kidneys; Coleman's Diet for Gastric Ulcer; von Jacksch's Anemia; Leukanemia; Disorders of the Salivary Glands; Sinus Irregularity; Premature Contractions of the Heart; Classification and Treatment of Mental Diseases; numerous lesser additions and alterations have been made.

THE SURGICAL CLINICS OF NORTH AMERICA. August, 1922. Volume II, No. 4. Boston Number. Philadelphia and London. W. B. Saunders Company. Published bi-monthly. Price, \$12.00 per year.

The contributors to this number are Doctors Barney, Bottomley, Cotton, Cutler, Davis, Graves, Harmer, Jones, Lahey, Macausland, Quinby, Richardson, Shedden, Smith, Whittemore and Walker.

DISEASES OF THE SKIN. By Henry H. Hazen, M.D. Second edition. 241 illustrations, including 2 colored plates. St. Louis, C. V. Mosby Company. 1922. Price, \$7.50.

In preparing the second edition the whole work has been practically rewritten. A number of diseases not mentioned in the first edition have been included, such as disturbances due to the vegetative nervous system; Naevus Anemicus and Retention Cyst of the Lip. Special emphasis has been put upon the x-ray treatment of various diseases and both radium and Kromayer Lamp have received more attention.

PRINCIPLES AND PRACTICE OF X-RAY TECHNIC FOR DIAGNOSIS. By John A. Metzger, M.D., with 61 illustrations. St. Louis. C. V. Mosby Company. 1922. Price, \$2.25.

The author's aim in the preparation of this book is to put into the hands of the student and operator a formula on which to base his work in order that he

may obtain better results and thus be able to reach a more correct diagnostic interpretation.

This work meets the aim of the author. We highly recommend it for the purpose for which it is intended.

A PRACTICAL MEDICAL DICTIONARY. By Thomas Lathrop Stedman, M.D. Seventh revised edition. Illustrated. New York. William Wood & Company, 1922. Price, \$7.00 net.

This work has gone through seven editions since 1911. This fact should be a sufficient recommendation for the work. In this edition between four and five hundred new titles have been added, some obsolete terms have been expunged and some of the definitions have been materially shortened. Several new plates have been added, the work has been so arranged with the idea that all reference data should be as convenient as possible. We highly commend this addition.

## Society Proceedings

### COOK COUNTY

#### CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

(Continued from September issue)

Several rough teeth had been extracted, and the patient wore a little hard rubber prosthesis to protect the edge of the tongue from friction. There appeared to be a mild grade of paraesthesia of the tip of the tongue.

He had gained in weight and felt very well. His general appearance was excellent. He had been taking intermittently a colloidal preparation of arsenic.

Dr. Lewy stated that in another case there was a carcinoma of the tonsil which he operated by the same method as that used in the case he showed. That patient remained well for nine months and died of metastases. There was no recurrence in situ and in that case the pain was relieved immediately. There was a large slough in the throat which separated without trouble. The other two cases went on from bad to worse without any benefit whatever.

Dr. George W. Booth presented a patient with bilateral labyrinthitis following gonorrhea. This patient, a white man of about forty, had a chronic gonorrheal urethritis and prostatitis for about a year. On August 10, 1921, while under treatment for the urethritis he complained of deafness. On October 8th he complained of head noises. On October 12th he was unable to hear any of the tuning forks by either air or bone conduction. On that date there was no spontaneous past pointing. He had a marked swelling in the lumbar region, which was red and angry looking and the whole region was much infiltrated. X-ray examination of the back was not satisfactory. On November 6th deep fluctuations of the mass in the lumbar region was detected, but attempts at aspiration were un-



successful. Rotation tests on November 8th gave the following: No spontaneous past pointing; after rotation to the right momentary nystagmus only; no past pointing; after rotation to the left momentary nystagmus only; momentary past pointing.

Diagnosis: Chronic gonorrheal urethritis; osteoarthritis of the lumbar spine; total labyrinthine deafness on both sides with total loss of vestibular function.

The Wassermann reaction was negative. A small swelling on the forehead which suggested gumma proved on excision to be a small lipoma. In spite of the total loss of function of both vestibular systems the patient had never been markedly dizzy and had never been unable to walk. The symptoms connected with the eighth nerve ran their course in about a month.

Whether the rapid labyrinthitis was due to a gonorrheal infection of the labyrinths Dr. Booth was unable to say but thought it seemed quite as likely as anything else and in view of the known occurrence of gonorrheal arthritis, gonorrheal iritis and gonorrheal spurs on the heel it seemed to him more likely than that the labyrinthitis should be due to an accompanying infection by other pus organisms.

Dr. Booth also presented a negro with a fibroid tumor of the left vagus with abductor paralysis of the larynx and the Stokes-Adams syndrome. The Stokes Adams syndrome could be produced by pressure at any time.

#### DISCUSSION

DR. J. HOLINGER was interested in the first case, but thought labyrinthitis from gonorrhea was never heard of. The fact that the Wassermann reaction was negative proved nothing and he advised the use of injections of arsphenamine. He believed the case had nothing to do with gonorrhea, but was a typical syphilitic deafness.

DR. ALFRED LEWY thought Dr. Holinger's explanation was the feasible one. It might also be possible for bony changes to the internal auditory canals to shut off both nerves.

Dr. Paul E. Sabine, Riverbank Laboratories, Geneva, Illinois (by invitation) presented a paper on "The Efficiency of Artificial Aids to Hearing."

#### ABSTRACT

This paper gave the results of tests made upon eleven different devices for the aid of the deaf, made at the Wallace Clement Sabine Laboratory, Riverbank, Geneva, Illinois. The method employed was a modification of that developed by Professor Wallace C. Sabine for the study of problems in Architectural Acoustics.\* The observations were made by a deaf observer, the cause of deafness, as diagnosed by Dr. J. Gordon Wilson, being fixation of the stapes with no involvement of the inner ear. Sound from a set of calibrated organ pipes was produced in a large empty room. The time required for the sound, as it died away after the pipe had ceased to speak, to fall to the threshold of audibility

was determined. Under the same conditions this time was measured when the particular device being tested was applied to the ear of the observer. From the difference of these times, the amplification produced by the instrument was computed. The experiments covered the range of tones from 128 to 4,096 double vibrations.

Lantern slides were shown giving the amplification for the various tones tried. For instruments of the open trumpet type these amplifications were found to follow the order of size of the instruments. The effect of the natural tone of the air column enclosed by the walls of the trumpet were shown in increased amplification of these tones. The maximum amplification produced by the largest instrument tried was about twenty fold. Instruments of the trumpet type, modified with the view of reflecting and focussing the sound, gave no greater magnifications than open trumpets of the same size. The method employed in these tests did not permit of conclusions being drawn as to the efficiency of speaking tubes.

Instruments in which the vibrations of diaphragms held in contact with the teeth and thence, by bone conduction are carried to the auditory nerve, were found to produce positive, though slight amplifications for low pitched sounds, but were ineffective in the case of tones above middle C.

Telephonic devices produced relatively large amplifications, and showed a marked increase in efficiency for tones near the natural frequency of vibration of the transmitter and receiver diaphragms. Thus one device gave a magnification of three hundred fold for tones in the neighborhood of 1,000 vibrations per second, which was the natural frequency of the transmitter diaphragm.

By comparison with the duration of a sound audible to normal ears under identical conditions, the amplification necessary to give the ear of the deaf observer a sensitivity equal to that of normal hearing was computed. This varied with the different tones but was of the order of 100,000.

It was pointed out that the discrepancy between the amplification produced by the best of the hearing devices and that required to produce normal sensitivity does not argue the entire inadequacy of hearing aids. Measurements show that sounds of ordinary loudness, such as speech sounds for example, are of the order of 1,000,000 times the threshold intensity. Hence a hearing device which produces an amplification of 300 fold without distorting the quality of the sound and without the extraneous sounds occurring in telephonic devices, would prove an extremely valuable aid in any but extreme cases of deafness, even though the deaf ear thus aided would be much less sensitive to faint sounds than are normal ears.

DR. J. GORDON WILSON and JOHN P. MIN-TON presented a paper entitled: "The Minimum Audibility of Hearing in Normal and Defective Ears."

#### Abstract

Only within the last few years has there been any

\*See: Proc. of the American Academy of Science, Vol. XLII. No. 2. June 1906.

marked attempt to study deficiency of hearing by the use of precise physical measurements carried on by a physicist in co-operation with an otologist. The work which the writers have been carrying on during the past two years is an example of such a co-operation, which it is hoped will be productive of an increase in our knowledge, physical and physiological of audition. The correlation of data, taken by a physicist and by an otologist, promises to yield results of fundamental importance and of practical value. This work has been made possible through the development during recent years of the vacuum tubes and through the increased knowledge of telephone receivers.

**Experimental method:** The audion oscillator, a telephone receiver tuned to a natural period above the range over which the tests are being made, and a Wheatstone bridge circuit are employed to make measurements of the current which makes audible, tonal vibrations in the telephone receiver. The electrical and the vibrational characteristics of the receivers are determined so that the vibrational energy of the diaphragm can be calculated for ears with normal or defective hearing. Curves are then plotted showing the reciprocal of the minimum audible energy at the different pitches up to 5,000 d. v. Curves are also plotted for ears with deficient hearing showing at the different pitches how much more current through the receiver is required for the patients to hear than is required by a normal ear; such curves show the relative minimum audible current at the various pitches compared with the normal.

**Experimental results:** Tests which have been made on normal ears, that is, ears which when examined by an otologist show no physiological defect, show that the maxima of sensitivity occur at various pitches, but these maxima are not in the same positions for all ears. There is also a wide difference in sensitivity among normal ears, but in general they are all alike in that they are most sensitive from 300 d. v. to 5,000 d. v., the range in pitch which covers the regions most important for speech and music. By precise physical measurements we become amazed at the extreme sensitivity of normal ears compared with the extreme insensitiveness of abnormal ears; thus it may require a sound energy as much as 50 million times above the normal for the patient with nerve deficiencies to detect, say, a pitch of 4,000 d. v.

A large number of curves have been taken on abnormal ears and these curves have been correlated with the otological findings. Internal ear deafness (nerve deafness) shows a depression in the higher frequency range (say 3,000 d. v. and above) without changing the sensitivity at the lower frequencies.

Curves for middle ear deafness involve primarily the lower ranges and are characterized by a larger decrease in hearing for the lower tones, near 1,000 d. v. than for the higher tones, say above 3,000 d. v. The patients may have serious internal ear deafness with little or no knowledge of it but middle ear

deafness since it reduces the sensitivity for tones important for speech perception makes one conscious of trouble as soon as the middle ear begins to be involved. In diseases involving the middle and internal ear, it is difficult to say how much of the deafness is due to the middle ear and how much is due to the internal ear.

**Theoretical bearing:** The theoretical bearing of the data so obtained has been discussed elsewhere. (Wilson and Minton: *The Proceedings of the Chicago Institute of Medicine*, pp. 157-171, 1921; Minton, John P., *Proceedings of the National Academy of Arts and Sciences*, September, 1921; *Physical Review* for 1922). It is sufficient here to say that by correlating the data so obtained in a study of both normal and abnormal ears much light has been thrown on the manner in which the ear appears to function physically."

#### DISCUSSION.

MR. VERNE O. KNUDSEN, Department of Physics, University of Chicago, opened the discussion and said that a telephone receiver energized by a current from a vacuum tube oscillator is used as a source of sound for determining the sensibility of the ear to small differences of loudness and pitch. Tones varying in frequency from 30 d. v. to 20,000 d. v. are produced by the oscillator. By means of a divided resistance circuit the intensity of the tones can be varied by any desirable and measurable intervals from the threshold values up to very high values.

Some auxiliary experiments showed that the acoustical energy developed by the receiver diaphragm is directly proportional to the electrical energy which actuates it. The electrical energy is therefore a convenient measure of the relative acoustical energy developed by the receiver diaphragm.

Data that have been taken thus far on a limited number of ears show that the sensibility of the ear to small differences of intensity, measured by the ratio of the smallest perceptible increment in energy to the total energy,  $\frac{\Delta E}{E}$ , is:

1. Dependent upon the intensity. The ratio  $\frac{\Delta E}{E}$  decreases

as the intensity increases. For a wide range of moderate and high frequencies the sensibility is nearly constant. Its value for ordinary frequencies is roughly 0.10.

2. Nearly independent of the frequency between 100 d.v. and 4,000 d.v.

3. Nearly the same for all normal ears.

The sensibility of the ear to small differences of frequency, measured by the ratio of the smallest perceptible increment of frequency to the whole frequency, is:

1. Dependent upon the intensity.
2. Dependent upon the frequency. The sensibility ratio decreases from about 0.01 at 50 d.v. to about 0.002 at 1,000 d.v. (for a single ear). For higher frequencies the ratio increases.
3. Dependent upon the mode of reception. Binaural reception yields a resolving power which is about twice as high as the resolving power of a single ear.
4. Only approximately the same for different individuals.

From these data it may be inferred that the average normal ear can distinguish about 400 gradations of loudness (for pure tones of moderate loudness), and over a frequency range of ten octaves (20 d.v. to 20,000) the average pair of ears can distinguish about 5,000 musical intervals or gradations of pitch.

DR. J. HOLINGER asked how the flexible tubes influenced the transmissibility of the sound in the hearing device, and whether the smoothness or roughness of the inside of the tube had any influence.

DR. SABINE, replying to Dr. Holinger, said that the tests as he made them did not bear directly on that point. Theoretically

cally the smoothness or roughness would have some influence but this effect would be relatively small.

DR. ALFRED LEWY recalled one case which was a stapes ankylosis in which the labyrinthine symptoms were not clear-cut and neither were the tests of the hearing clear enough to be certain of the diagnosis. Mr. Minton's diagnosis was spongification of the capsule and he wondered whether this had not affected the labyrinth sufficiently to interfere with the function of the vestibular nerve.

Dr. Lewy thought the greatest practical value of Mr. Minton's work rested in the check that could be maintained on the improvement under treatment. He considered this work of great practical value in this way.

In Mr. Knudsen's work, his findings with his much more accurate instrument corresponded almost exactly with Dr. Lewy's experience with the monochord.

MR. SABINE said, in cases of incipient otosclerosis it had occurred to him that a remedial effect might be obtained by stimulation of the ear by intense sounds, and asked the opinion of the members as to whether there was any rational basis for this belief.

DR. SONNENSCHNEN said that in the minds of the general practitioners the idea of otosclerosis was that of an actual sclerosis, but this was a misnomer. The condition is really a spongification of the bone and its replacement by a very vascular bone, which interferes with the movement of the stapes. Many methods and devices have been used without avail to overcome this condition.

DR. JOSEPH C. BECK said, the point about the pathological change in otosclerosis and other conditions around the footplate of the stapes seemed to be not pertinent to the otosclerosis but to other changes of inflammatory character whereby the stimulation by sound would be of value. He thought all would agree that the difficulty with many people possibly is that very early, when they hear but do not understand, they get into the habit of not listening and so by stimulating them, by insisting upon their listening to tuning-forks both by bone and air conduction, this would be of considerable value in the absorption of the inflammatory by-products.

Dr. Beck also called attention to the commercial houses that grasp such scientific devices as this, and that there is an oscillator for therapeutic purposes making a buzzing sound for producing hyperemia and absorption. It seems that people generally are after some device for improving the hearing. In his practice he recommends devices, particularly those of electrical nature, and thought that people get a great deal of benefit from them.

DR. A. A. HAYDEN said it has been his privilege to view rather intimately the feelings with which the people affected with deafness take up artificial means of hearing. While many of his patients are greatly aided by these electrical devices as well as by other aids to hearing—speaking tubes, etc., he finds great reluctance on the part of nearly all these people to make use of these devices on account of the rather conspicuous appearance. It appeared that the people who are hard of hearing would rather keep their defect than use the external devices.

In regard to the exercise of the function of hearing with the idea of improving it, Dr. Hayden thought there were a number of facts that militated against it. He did not believe that the use of the cochlea could increase its efficiency any more than the use of the retina with a hemorrhage would increase the individual's perception of light in that portion of the retina. He looked with the utmost skepticism for relief of loss of hearing from exercising with sound.

DR. MINTON stated that in certain patients who had middle and internal ear deafness he had noticed that stimulation with sounds at certain pitches had brought about sufficient temporary improvement to enable the patient to detect a sound about  $\frac{1}{4}$  as intense as before. They might require a relative receiver current of perhaps 1,000 initially, but while testing the patient this value may decrease to perhaps 500. This improvement is but temporary for when the patient returns for testing the next time the original value, e. g. 1,000, is obtained. It is not likely that we can obtain any permanent improvement in hearing by this means.

MR. PAUL E. SABINE thought Dr. Shambaugh had made the statement that in cases of nerve deafness the speaking tube might prove helpful, whereas in cases of middle ear defect the electrical device would be helpful.

DR. HOLINGER said that he knew of many instances of middle ear deafness where the patient would not part with the electrical apparatus for a million dollars, whereas an elderly gentleman with nerve deafness had tried many of them and thrown them away.

He drew attention to the interesting cases of diplacusis where the patient perceived a certain sound in different pitch with the two ears. He tested an organ player who had to give up his profession on account of diplacusis which rendered his playing to himself and the community painfully dissonant. Dr. Holinger tried to produce consonants by varying the pitch of the forks before both ears, and found a variance in pitch of two to six tones in the two ears.

MR. SABINE thought this might be due to the fact that the maximum sensitiveness of the ear occurs normally for those tones for which the telephone is most effective, and for that reason the patient with nerve deafness would not be benefited by the large amplifications of these tones.

In one patient he had found the defect mentioned by Dr. Holinger and, since the deafness came on, even though she could hear music, it was very unsatisfactory. There was apparently a difference in pitch of the same tone when heard in the two ears. There might be a possible explanation if a difference in intensity is ever interpreted as a difference in pitch.

MR. VERNE KNUDSEN stated that one of the students at the University had told him that the sustained tones of the violins at the Tivoli were heard differently by the two ears. Examination in the laboratory proved that the same tones were heard a semitone higher by his right ear than by his left ear. His left ear was probably the affected one, since his pitch identification with his right ear agreed with normal ear identification.

Two or three weeks later he noticed that the effect had disappeared, and five months later laboratory tests showed that he heard normally with either ear.

DR. MINTON thought that the explanation of the difference possibly was because the two ears may possess quite different sensitivities and if the tones are not absolutely pure a patient may hear a certain tone with the good ear and quite a different one with the poor ear, since, near the threshold of audition, the sense of pitch vanishes, and it is impossible to make accurate judgment of pitch difference near this limit. For tones whose intensity is much above the threshold value it is absolutely necessary first to adjust the intensity so that the tones are heard with equal loudness when listening with one ear and then with the other one. When this adjustment is made one can then test to see if a tone sounds of the same pitch in both ears. These requisites make it practically impossible for the otologists to secure any reliable data on the so-called phenomenon of diplacusis.

DR. GEO. W. BOOT thought that the very fact that diplacusis occurs was one of the best evidences that there is a physical resonator in the ear. If the portion of the resonator, for instance, that responds to C 2 normally, gets weighted by some exudate, it no longer responds to C 2 but to some tone lower in pitch. This explains the situation that occurs in diplacusis, for the lower pitch, say C 1, causes the resonator on one side that normally responds to C 1 to functionate and on the other side the resonator that normally responds to C 2 so that the tone C 1 is heard as C 1 and C 2 at the same time.

With regard to exercising the hearing in otosclerosis to cause the return of normal function, Dr. Boot said that if the ear was massaged there was improvement for a half hour and then the condition was worse than before. Not long ago he had a patient in an advanced stage of otosclerosis. She received a blow on the head and at once her hearing became very much better, to the temporary discredit of the doctor who had given an unfavorable prognosis, but in less than two weeks her hearing was as bad as ever.

With regard to hearing instruments, Dr. Boot believed



patients with nerve deafness were not apt to be much benefited by the electrical instruments. Patients with fixation of the stapes and increased bone conduction were apt to hear better, for the instruments rests firmly against the side of the head and the sound waves can get in by bone conduction.

DR. MINTON was of the opinion that the mechanical theories of the phenomena of audition are wholly unsatisfactory and are rejected by the physicists who based their conclusions upon precise physical measurements. Otologists usually believe that deaf people hear with a telephone against the ear because of bone conduction. There is no physical basis for such a belief. Numerous tests have been made to detect "bone conduction" when a receiver is placed on the ear. Negative results are always obtained. The real explanation is that the telephone, when placed over the ear, radiates all its sound energy directly into the auditory meatus and little or none of the sound energy is lost to the surrounding space.

DR. J. GORDON WILSON said that during the war he observed a great many men made deaf by shell concussion (explosion). A number of these men were improved by stimulating the auditory tract by pure tones conducted through the mastoid bone if very deaf, or through the air if not so deaf. They improved to a considerable degree but not entirely, and kept this improvement. This subject was discussed in a lecture before the Harvey Society in New York in 1917 and published in their series of lectures.

DR. SONNENSCHNEN emphasized the fact that it is very important for otolologists to know more about acoustics and the diagnosis of such symptoms coming within their sphere.

#### CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The regular monthly meeting of the Chicago Laryngological and Otolological Society was held on Monday evening, January 9, 1922, at the Hotel Sherman, at 8:00 o'clock.

The president, Dr. Robert Sonnenschein, in the chair.

Case 1: Dr. Charles H. Long presented a case of pulsating sphenoid. His reasons for presenting this patient were two-fold. First, he discovered that he had escaped a bad result from the treatment; second, he discovered the pulsating sphenoid. The patient was a man of 59 years who was referred to him because of deafness and tinnitus in the right ear. Examination revealed an ethmoiditis with a muco-purulent discharge down the middle turbinate. About the 19th of December he everted the ethmoid and along the anterior third of the turbinate was a mass of granulations toward the frontal sinus. He opened the frontal cells and when the middle turbinate was removed with the ethmoid cells he noticed a discharge from the sphenoid. He wiped this out and there was a severe reaction. The man had a badly developed septum from a former traumatism. The following day the right eye was projected and swollen, red and congested. He spent several sleepless nights following the operation and had considerable pain, not only in the back of the head but through the eye. The ordinary treatment was used,—washing out the nose with saline and using a hot water bag to the eye. About a week after the operation he syringed the sphenoid and the reaction from this put the patient back to bed. He reported at the office two

days later and it was then seen that he had a pulsating sphenoid.

The cause of the pulsation was not altogether clear and it was not clear why he got projection of the eye and cellulitis, unless the membrane between the orbit and nose was perforated, or else in the sphenoid there was no bony membrane between that and the internal carotid, or else there was necrosis of the external portion of the sphenoid and possibly some pulsation of the brain, or a tumor. There was no pain and the hearing in the left ear was normal. In the right ear he could hear an ordinary conversational voice at ten feet and the whispered voice at four feet.

Dr. G. W. Boot asked if the carotid was bare in the cavity.

Dr. Long replied that he did not know. After having wiped the cavity out he was satisfied to leave it alone.

Dr. Edward P. Norcross presented a paper entitled: "A Case of Acute Mastoiditis with Unusual Complications."

The subject of the report was a child three and a half years of age, of unusual mentality. About four weeks prior to Dr. Norcross' first examination she had contracted a head cold, followed by a right otitis media purulenta. Paracentesis was followed by diffuse muco-purulent discharge. Two weeks later the patient had a sudden rise in temperature, complained of pain in head and dysphagia. Examination of the throat revealed a retropharyngeal abscess on the right side, which ruptured spontaneously. The child's condition then improved until one month after the onset of the otitis media. At that time the temperature was 101.6°F., pulse 120. She was irritable and complained of pain in the right side of her head. When she moved she held her head because her neck hurt her. There was no neck rigidity and with the exception of a paresis of the right external rectus, no evidence of paralysis. The reflexes were normal. There was a profuse purulent discharge from the right external auditory canal and well marked tenderness over the mastoid antrum and tip. The throat was clear. The tonsils had been removed the year before.

A simple mastoid operation revealed an antrum full of pus, which extended throughout the broken down cells, forming a well of pus at the tip. As the surrounding bone was hard neither the lateral sinus nor the dura was exposed.

Following this operation the temperature became normal but the child did not regain her strength and continued to be irritable. The discharge decreased but did not cease. The wound did not show healthy granulation. Double vision and pain in the right eye were complained of for about a week. The W. B. C. remained at about 17,000 and the hemoglobin at 65 per cent; R. B. C. 3,500,000.

Ten days after the operation the temperature rose to 103°F. and the white blood count was 26,000. The child complained of pain in the neck and dysphagia. Examination of the throat disclosed an-

other large retropharyngeal swelling extending upwards into the postnasal space. Incisions into this mass resulted in the evacuation of about one-half ounce of thick, creamy pus. Cultures showed long chain streptococci, which did not change blood. The white blood count dropped to 14,000.

X-ray examination of the cervical spine showed no disease of the vertebrae. The patient continued for another two weeks in fairly good condition but the discharge from the wound and external canal persisted. The W. B. C. again rose to 20,000.

Dr. Norval Pierce was called in consultation and because of the protracted course and continued discharge the mastoid wound was reopened. A healthy dura and sinus were exposed but as the cavum tympanum was filled with necrotic tissue the simple mastoid operation was turned into a radical one.

Following this the patient improved rapidly and was discharged from the hospital in two weeks. When last seen at the office she was happy and good natured, submitted kindly to the ear dressing and presented the picture of a normal, healthy child. Three weeks later the mother telephoned that the child had become very angry about obeying some command, screaming, kicking and scratching her mother. After she had been quieted her mother observed that she did not appear able to call familiar objects by name. Otherwise, there was no change in her condition. Careful examination revealed no change in reflexes or eyegrounds, but she could not or would not tell the names of familiar objects although she knew what their use was and recognized the name when it was spoken. The temperature showed a tendency to be subnormal. The pulse was occasionally retarded. At times the child complained of pain in her head, more pronounced at the left side.

About ten days later she began to show some weakness on the right side of the body, first in the facial muscles and then in the leg. The grip in the hands remained about equal. There was a tendency to convergent strabismus and diplopia, with slight bilateral papillitis. There was no increase in headache or speech disturbance. The following day there was a noticeable weakness in the right arm and the patient suddenly had a convulsion involving all the extremities. She did not regain consciousness. A trephine opening was made over the left temporal sphenoidal lobe. The brain was bulging. Incision into its substance was followed by a very copious discharge of thick pus. The patient died about fourteen hours later.

Postmortem examination of the brain showed two large abscesses. The older and outer one situated in the temporal-sphenoidal and occipital lobes, measured 10 cm. antero-posteriorly and was 6 cm. wide at its widest part. It reached from a point 1 cm. in front of the optic chiasm to a point 4 cm. from the tip of the occipital lobe. A second abscess, smaller and more recent in origin was situated mesially to this large one. A direct connection could not be found between these abscess cavities.

The diagnosis of the left brain abscess was based upon the symptoms of paralysis of the right facial muscles and right arm. The most remarkable point was the occurrence of an abscess in the left hemisphere from a right otitis media.

The author doubted whether the very mild aphasia in a right handed child was sufficient cause for doing an exploratory operation, but felt that had the otitis media been located in the left ear the development of such aphasia would have been considered sufficient indication for reopening the mastoid and exploring the brain.

#### DISCUSSION.

DR. JOSEPH BECK recalled a case of an abscess occurring in the side opposite to the mastoid operation. The patient gave absolutely no symptoms referable to a temporo-sphenoidal abscess in the side opposite the operated side, but died suddenly a week after the mastoid operation. Post-mortem examination showed that it was an old abscess. The lining of the abscess cavity was very thick and he thought probably the operation activated this old abscess and caused a direct extension into the region of the fourth ventricle.

DR. G. W. BOOT thought a good deal of light might be obtained by means of a lumbar puncture, and asked what the lumbar puncture in this case showed.

DR. OTTO STEIN considered it a rather unusual complication. When Dr. Dean reported his operation for a retropharyngeal abscess by the external method before the Society, in discussing the operation Dr. Stein reported a case under his care similar to the one just reported by Dr. Norcross.

DR. ROBERT SONNENSCHNEIN reported a case seen a month and a half ago, in an eight months old infant that developed a right-sided otitis media. The right drum membrane was incised and profuse discharge escaped. Shortly afterward a retro-tonsillar abscess developed on the right side. After this was incised a similar abscess appeared on the left, which also was opened, and following this another appeared on the right side. Then the right cervical lymph glands which had been swollen during the whole illness broken down were incised and the patient recovered. Streptococcus haemolyticus was found in the pus contained in the glands.

DR. NORCROSS (closing the discussion) said that the spinal fluid was under slightly increased pressure. The cell count was 10 and the various tests were all negative. Röntgen examination of the mastoid, spine and skull showed nothing abnormal.

#### Presentation of Cases of Oto-Laryngological Interest

##### Case 1:

DR. HARRY L. POLLOCK presented a young lady with a history of having a tooth in the right bronchus.

On June 30, 1921 a tonsillectomy was performed in a small city in Ohio. The operation was performed under general anesthesia, with the patient's head in the operator's lap. The open method of anesthesia was employed first, then the blowing method, suction being employed. Just before the operation the patient warned the doctor that she had a left cuspid tooth on a pivot, and immediately after the operation she discovered that the tooth was missing. She recovered from the tonsillectomy within a few days and went to her home in Minnesota, and there developed a right-sided pneumonia. She recovered from this but still had symptoms of cough and pain in the chest. She was then

taken to another hospital and told that she had tuberculosis, and was treated for this condition. She continued to have symptoms of tuberculosis but they were unable to find any bacilli. She was then sent to St. Paul and for the first time a radiogram was made, which revealed the tooth in the right bronchus.

She then came to Chicago and was seen by Drs. Pollock and Beck this being about five months after the tooth became imbedded in the bronchus, and Dr. Edwin McGinnis was called in to remove the tooth. The patient was put under Gwathmey synergistic anesthesia, consisting of three hypodermic injections of  $\frac{1}{2}$  grain morphin in two c. c. of a 25 per cent. magnesium sulphate solution, one-half hour apart. Following the last hypodermic 3 ounces of ether, with 3 drams of paraldehyde in 3 ounces of olive oil was introduced into the rectum. The magnesium has a synergistic effect on the morphin and increases its effects greatly without affecting the danger of the morphin. In these cases it is almost impossible to give a general anesthesia on account of the infection and the pus. The radiogram showed a distinct abscess in the lung. Dr. McGinnis passed a bronchoscope and found the abscess cavity, but could not reach the tooth. It was then decided to let some of the inflammation subside and then attempt it again, but on the following day the patient coughed the tooth out. She developed a little pleurisy on the right side and a little more infiltration but had now completely recovered.

#### Case 2:

##### Primary Lateral Sinus Thrombosis of Jugular Without Apparent Otitis Media

DR. POLLOCK presented a boy who was first seen on March 10, 1921. He had then had a cold, and pain in the left ear for about a week. A moderate degree of otitis media was present. The child was very unruly. The mother was advised to keep him in the hospital but he would not stay. He was reported to be better the following day but two days later the pain was worse and he was again brought to the hospital. Upon the second examination the ear was still red, there was no bulging of the membrane, and hearing was poor. The temperature was 100 to 101° F. He was kept in the hospital and hot compresses were applied. The second day afterward a thick, hard, painful swelling was noticed down the neck and a diagnosis of lateral sinus thrombosis, with extension to the jugular, was made. The following day the sinus was opened and thrombus removed. The jugular was ligated and the boy made an uneventful recovery. There was never a perforation of the ear drum nor any discharge from the ear. The ear was red but there was never any bulging. There was very little pus in the antrum, but it went through the middle ear into the lateral sinus. The boy's hearing at the time of presentation was perfect.

In this case the Beck-Crowe test, made by com-

pressing the opposite jugular, gave a positive result. There was great dilatation of the blood vessels on both sides. There were no symptoms of meningitis. The jugular was not dissected, but simply ligated down low. A small abscess formed which was drained two days later. The wound was left wide open and permitted to granulate in.

The morning of the operation the temperature ran up to 102-104° F. As soon as the operation was finished, although the bed was prepared with hot bottles and blankets, the boy had a terrific chill just as he came out of the anesthesia. The temperature never went up following this but remained practically normal the rest of the time.

#### Case 3:

##### Atrophic Rhinitis

DR. POLLOCK said the disease had lasted for several years. Dr. Beck had performed a bilateral ethmoid exenteration. Following recovery from this the patient decided to go further with the treatment and have the place left by the exenteration filled in. They always do the ethmoidectomy by the Mosher method, with the middle turbinate intact. There was pronounced atrophy on both sides. They then implanted into the septum another septum from a previously operated case.

In this work they had carried out a series of experiments previously in trying to fill in this space, starting with paraffin. This proved unsatisfactory in most cases and they then tried other substances. The first thing tried out was the implantation of fascia lata. This was satisfactory except that it was so small. In the first case they took both fascia latas and implanted them on one side, but they shrunk to almost nothing. Following this they tried a fascia from another individual but had very little success with this method. Most of them sloughed out. They then tried another method of doing a submucous operation on one side and then implanting the substance between the bony and cartilaginous septum. It does no good to put the implant up high because the atrophic condition is down low. They next tried the plug that has been used in osteomalacia, consisting of paraffin iodoform and wax. This makes a hard substance that has been used in osteomyelitis, but in their work it did not prove satisfactory, as it all sloughed out. So they resorted to the implantation of another septum from a previously operated case. They have done this in probably thirty cases and only one or two have sloughed out. The rest have healed beautifully. At first they tried to do both sides at once but found that it took away the nutrition from the septum to remove both flaps, a small perforation followed and bone and cartilage sloughed out, so they now do one side at a time.

This patient was operated on the right side about three months previously and immediately showed improvement. The odor disappeared entirely but the other side became worse. They then operated



on the left side and at present there was bulging on both sides.

It is sometimes necessary to use two septums in this operation. On the right side they made an incision far to the back so they could make one in front and dissect up the perichondrium and implant a second septum if it proved necessary.

The result was lessening of the discharge and disappearance of the odor. It had been a year and a half since they operated the first case and with one or two exceptions they had no infection.

#### DISCUSSION.

DR. H. R. BOETTCHER asked if they closed the initial incision.

DR. POLLOCK replied that they used a little collodion and cotton and a Burnay splint was then kept in for twenty-four hours. The fascia was not used for a few hours after removal, but in all these cases operated after the primary ethmoidectomy they waited until they got a submucous that they knew to be free from infection and then implanted it within five minutes.

DR. JOHN A. CAVANAUGH stated that he had operated several cases, using the method advocated by Dr. Pollock, but his results were not as satisfactory.

#### Case 4:

##### Pulsating Artery in Left Pharyngeal Wall

DR. POLLOCK presented a woman with tinnitus in the right ear and right-sided otitis media. Examination of the nose and throat showed marked pulsation behind the posterior pillar, with a pronounced bruit on the left side. He believed this was not an anomalous artery but an aneurysm on the left side with an otitis media on the left. The tinnitus was probably due to the otitis media.

#### Case 5:

##### Pituitary Dystrophy

DR. JOSEPH C. BECK presented a child aged 9 years who was almost completely blind. There was a history of severe headaches, vomiting and all symptoms of brain tumor. The child was very fat and entirely unable to walk, his feet being unable to bear his weight. He presented the typical Froelich syndrome of pituitary dystrophy. The blindness had developed rapidly, with a sudden disappearance of the pressure symptoms, nausea, vomiting and headache. The intellect was not impaired at all. The child answered questions freely and sang and recited in an almost precocious way. (Demonstrated.)

After making a diagnosis of hypophyseal tumor, by X-ray and other findings, which had broken down into the sphenoid sinus region without obstructing the breathing, they performed a subtemporal decompression to see what result would be obtained. Light perception was restored but he was still unable to walk.

Dr. Beck asked for an expression of opinion as to whether they should now do an intranasal operation.

In reply to a question as to why he did not use radium, Dr. Beck said he had not thought of trying it in this case. He believed ductless gland therapy would be of no avail and thought the only question

was whether further operation should be attempted. A neurologist had expressed the opinion that there was nothing to be done and concurred in the diagnosis. (Note: Since the above presentation Dr. Beck operated upon the boy by way of the cranial route and found no evidence of a tumor in the region of the hypophysis. The boy appeared to have very much distended lateral ventricles. He did very poorly after the operation and two weeks later died from symptoms of a low-grade meningitis, which postmortem findings confirmed. There were no changes in the sella turcica but marked internal hydrocephalus was present.)

#### Case 6:

##### Carcinoma of the Larynx; Laryngectomy

DR. BECK next presented a man with a history of a growth in the larynx which had persisted for several months. This was treated by a local specialist but he was finally referred to a large private clinic where a laryngotomy was performed and was subsequently rayed with large doses of radium emanations. There was a recurrence and he was given more large doses of radium emanations and was then told that was all that could be done. The patient was then referred to Drs. Beck and Pollock because of choking sensations and Dr. Pollock did a hurried tracheotomy. Following this they fed him up for a week or ten days, until he was in condition for a laryngectomy.

Digression: One of the interesting features about the case was that the operation was done under what is termed synergistic anesthesia of Gwathmey. Dr. Beck reported fifty cases operated under this synergistic anesthesia, and exhibited a chart of the cases. The operations were the ordinary ones of the nose and throat as, for instance, tonsils, septum, turbinectomy and ethmoidal exten-terations, as well as the border-line and major operations about the head and neck. He stated without hesitation that he had never tried anything in the way of an anesthetic that worked so beautifully. He had performed plastic operations without any pain whatever. They had sometimes found it necessary to give some additional ether or gas, as Gwathmey had stated in his articles. He believed there was no danger of toxic effects from this method and that there were very few untoward effects of any kind. In one case there was some irritation of the rectum for a day or two and in one case mild infectious abscesses developed at the site of injection. They had not used this method in children but for a general anesthesia, like a sinus operation, where the patient could be kept sufficiently conscious to be able to answer questions, blow the nose, etc., he has never seen anything to equal it.

In the patient presented the operation was done according to the Gluck method. They found that the growth was entirely intralaryngeal, not extending to the outside at all, and he felt that there would be no recurrence. They had used no radium

and would not as long as things remained in normal condition. The man had developed erysipelas in the course of the treatment, from which he completely recovered.

Another interesting thing about the case was the matter of feeding, which was done by an Ewald duodenal tube in the beginning, but the patient was now able to take ice cream and some other things without the tube.

#### Case 7: Hyperesthetic Rhinitis

DR. BECK presented this patient because of the work which had been done by Dr. Arnold B. Kaufman in this disorder. The treatment of hyperesthetic rhinitis was considered practically hopeless according to old methods. He asked that the privilege of the floor be extended to Dr. Kaufman so that he might speak of his treatment of these interesting and difficult cases.

#### Case 8: Paraffinoma

DR. HARRY L. POLLOCK presented a patient who had sustained a broken nose, which resulted in a "saddle nose" a surgeon had endeavored to remedy this condition by injecting paraffin and the patient now had a real paraffinoma. The nose was red and in worse condition than before this operation. The skin was infiltrated and the growth was adherent to the tissues. They intended to remove the entire mass, right down to the nasal bone and do a plastic operation as these tumors frequently become malignant.

#### DISCUSSION

DR. ARNOLD B. KAUFFMAN said the case presented was one of a series of types in which during the past year they had attempted to determine what part, if any, deficiency disease may play in producing any pathological state or malfunctioning of parts in the ear, nose and throat, other than fertile soil for the growth of saprophytes or pathogenic organisms. They have made an effort to observe the possible relationship of dietary deficiencies, particularly vitamin deficiencies—to various nasal and aural conditions which were of more or less unknown etiology and which pathologically showed changes not of an inflammatory nature nor directly due to bacterial invasion. Of these, hyperplastic ethmoiditis and otosclerosis appeared to be the most conspicuous.

In hyperplastic ethmoiditis, histologically, they found the osseous changes were those of absorption—the bone cystic or thickened by a rarefying process. These pathological changes are not unlike those found in other well defined deficiency diseases, so on this hypothetical basis they have given to one group of typical cases, a dietary rich in water soluble B and C vitamins, while in the second group, there was simply added to their dietary cod-liver oil, which is abundant in the fat soluble A vitamin. The first group showed no particular improvement, while the second group began to show definite amelioration of symptoms. Therefore, on the basis that in this condition there may be a deficiency in the fat soluble vitamin—they had determined the inorganic phosphorous content of the blood because of the fact that investigations at the Johns Hopkins Hospital give sufficient basis to assume that the level of blood phosphates is determined in part by the amount of fat soluble A vitamin available for the body needs, and their results have shown for the most part a diminution in the blood phosphate content.

In oto-sclerosis they had more basis for the assumption that the condition may be a manifestation of a deficiency disease because of the analogy of the pathology in rickets and in this condition it must be borne in mind, that in rickets, although a condition of early infancy and childhood

affecting young bones, there are definite changes in the temporal bone. Mayer in his recent book on oto-sclerosis, studied the changes in the temporal bone in a 9 months' old infant with well advanced rickets. He found a definite bony degeneration in the cartilage about the oval window, and that the newly formed bony tissue in the region of the oval window remains uncalcified, the defect being a lack of calcification rather than the formation of cells.

Here, then, in rickets, a disease of infancy and childhood, and oto-sclerosis, a condition existing between the 20th and 50th years of life, changes occur in the temporal bone that are not dissimilar, although their end-results are not quite identical. Furthermore, it is known that rickets is essentially a dietetic disorder, centered on the role of vitamins and more specifically on the fat soluble A vitamin; that it can be produced experimentally by diets deficient in this vitamin, and has been cured and prevented by the administration of cod liver oil, which contains the deficient accessory.

(To be continued)

### GREENE COUNTY

The Greene County Medical Society met in White Hall on Sept. 8, 1922. The meeting was called to order by the President, Dr. E. J. Peck, at the city hall for the transaction of business. The minutes of the last meeting were read and approved. A motion prevailed that we as a Society co-operate in every way with the State Department of Public Health in reporting communicable diseases, and especially in the matter of reporting births, still births and deaths. The matter of the 25 cent fee that the physician was paid in former years for making out and forwarding these reports was discussed. It was the consensus of opinion that the 25 cent fee paid the city or road clerk should be paid the physician in as much as he assumes all the trouble of obtaining the record and the additional trouble and expense of mailing the certificates.

The frequency of the physician being called in acute cases just before death, after having been attended by an Osteopath and other cults, and the writing of death certificates in such cases by the M. D. was freely discussed. Dr. Burns of Carrollton suggested that these cases were Coroner cases, that the physician did not know what damage the Osteopath has done in the case and he should refuse to sign the death certificate, and insist on an inquest by the Coroner. Several deaths have occurred here that really should be charged up to the Osteopath. When death is inevitable they retire from the case and the M. D. is called to write the death certificate. If all physicians would take this stand as suggested, the "no death" claim of the Osteopath and other cults would cease.

The dinner hour having arrived, adjournment was taken to Hotel Stocks. After partaking of an excellent dinner provided by the physicians of this city, the meeting was called to order in the city park for the program. Dr. Carl E. Black of Jacksonville presented a well-prepared paper on cancer of the breast, which was very much appreciated.

Mr. T. E. Allen of Chicago, Field Secretary of the American College of Surgeons, gave an excellent address on his observations as a layman in

various parts of the states in his travels. A rising vote of thanks was given to both Dr. Black and Mr. Allen.

Dr. W. T. Knox was on the program, but withdrew as the hours were well taken up.

The censors reported in Roadhouse for the next meeting. Members present, 12. Visitors, Dr. Carl E. Black, of Jacksonville; Dr. Robert Barclay, of St. Louis, and Mr. T. E. Allen of Chicago.

W. T. KNOX,  
Secretary.

### IROQUOIS COUNTY

The regular meeting of the Iroquois County Medical Society was held Friday evening, September 8, 1922, at the office of the secretary, Dr. R. A. Buckner, Gilman. This was the first time the beautiful new office building had been used as a setting for any business and social activities, and it proved to be an ideal place for such an occasion.

The meeting was called to order by Dr. R. A. Buckner, acting chairman, and the minutes of the July meeting were read and approved. Since there was no business to come before the assembly, the evening's program was opened by Dr. Louis J. Polferential Diagnosis and Treatment, Cerebral Hemorrhage. Dr. Pollock's subject, "Differential Diagnosis and Treatment, Cerebral Hemorrhage, Embolism, and Thrombosis" was deeply appreciated by the audience. Short discussions by Drs. Buckner, Ross and Woodyatt, were followed by a few minutes of recess, during which the doctors enjoyed some iced punch which had been provided for their refreshment.

The second half of the meeting was occupied by Dr. Rollin T. Woodyatt, also of Chicago. Dr. Woodyatt is an internationally known authority on the subject of "Diabetes," and his paper proved of more than special interest to the doctors present. Following short discussions by Drs. Buckner and Ross, a vote of thanks was tendered the speakers and the meeting adjourned to reassemble at the home of Dr. R. A. Buckner, where a roast duck dinner was served.

Fifteen members and eight guests were in attendance.

DR. R. A. BUCKNER,  
Secy. & Treas.

### Marriages

SAMUEL JACOB ALDEN to Miss Helene Smith, both of Chicago, September 9.

LEO JOHN FULL to Miss Margaret A. Evans, both of Chicago, August 31.

MATRICE J. SHERMAN to Miss Rae Vebon, both of Chicago, July 19.

JOHN W. NUZUM to Miss Mary Louise Smith, both of Chicago, September 2.

BRD MCPHERSON LINNELL to Miss Julia G. Zenos, both of Chicago, September 9.

### Personals

Dr. William L. Baum returned recently from a trip abroad.

Dr. Cecil M. Jack, Decatur, has been elected president of the Macon County Tuberculosis Association.

Dr. William H. Lyford, Port Byron, celebrated his eighty-sixth birthday, September 8.

Dr. J. Edwin Rhodes has returned to the United States after a tour of England, Scotland and France.

Dr. George W. Michell has resigned as president of the board of school inspectors of Peoria, after ten consecutive years and four terms as president. The Peoria press gives his administration credit for efficiency in building up a school system free from fads and politics.

Passed Asst.-Surg. Harris E. Powers, U. S. Public Health Service, Louisville, Ky., has been appointed to the U. S. Veterans' Bureau Hospital, No. 30, at Chicago.

Dr. Duncan F. Stewart, Galva, has been appointed coroner of Henry County, to succeed Dr. Axel F. Benson, who resigned recently, and will reside at Austin.

Dr. Edmund J. Doering of Chicago has been promoted to the rank of colonel, M. O. R. C., by President Harding. Dr. Doering passed the Army Examining Board in August.

Dr. Daniel N. Eisendrath, Chicago, read a paper on "The New Aspects of Kidney and Ureter Surgery" before the Scott County Medical Society at Davenport, Iowa, September 5.

Dr. E. P. Sloan, Bloomington, president of the Illinois State Medical Society, addressed the Madison County Medical Society at Edwardsville, September 1. The subject of his lecture was "Goiter."

Mrs. Bertha Logan has resigned as superintendent of the La Salle County Tuberculosis Sanitarium at Ottawa, in order to devote a year to travel. The resignation will be effective October 1. Her successor has not yet been appointed.

Dr. James M. Masters has resigned as superintendent of Oak Knoll Sanatorium, Mackinaw, and will reopen his sanatorium at Port Orange, Fla. Dr. John F. W. Rost of Minier is acting



as medical director of Oak Knoll Sanatorium until other arrangements are made.

Dr. Camillo Volini and Dr. Antonio Lagorio, both of Chicago, have received the Order of the Grand Knight from the king of Italy, for their services to humanity. Dr. Volini is director of the Italian Red Cross in the United States, and Dr. Lagorio is head of the Pasteur Institute, Chicago.

Dr. Edwin P. Sloan, Bloomington, has been elected secretary of the state advisory health board to succeed Dr. C. W. Lillie of East St. Louis, who died recently. An effort will be made to place Illinois in the birth rate area by having stringent laws passed compelling the registration of all births.

Dr. W. H. Gilmore of Benton, formerly secretary of the Illinois State Medical Society, at a meeting of the Council, September 11, was elected councilor for the 9th district, succeeding the late Dr. Charles W. Lillie.

Dr. W. D. Chrisman has sold his practice in Bradford to Dr. Clyde Berfield of Toulon and is practicing ophthalmology in Sterling.

Dr. Frank P. Norbury has discontinued his office in Springfield and is permanently located at the Norbury Sanatorium, Jacksonville, in the practice of neuropsychiatry.

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### News Notes

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—A. M. Shelton, state director of registration and education, addressed the Council of the Illinois State Medical Society, September 11, on the problems of his department. It is reported that he has asked for the resignations of members on several boards under his jurisdiction.

—It is rumored that hundreds of physicians in Illinois will not receive prescription books at the quarterly distribution on account of alleged failure to observe the rules of the prohibition enforcement officials.

—Officials of the staff of Sherman Hospital, Elgin, were elected last month as follows: Dr. E. H. Abbott, chief of staff; Dr. A. E. McCornack, vice chief of staff; Dr. H. H. West, secretary and treasurer; executive committee: Drs. W. S. Brown, L. J. Hughes and Olive Kocher.

—The Peoria Medical Society has started a medical library for which the public library has

provided a room. The entire library of the late Dr. Charles Miller is the nucleus of the collection which will be managed by the following committee: Drs. J. H. Bacon, R. L. Green, S. M. Miller, G. D. Thomas and O. J. Roskoten.

—A regional conference on tuberculosis and public health was held in Carbondale, September 11-12, by the Illinois Tuberculosis Association. In the 41 counties represented in the Southern part of the state there are no public sanitariums for treatment of tuberculosis cases.

—Hynson, Westcott and Dunning, established in business at Charles and Franklin streets, Baltimore, in 1889, last month moved into a magnificent new building at Charles and Chase streets. The new headquarters represent an investment of nearly a quarter million dollars and furnish greatly improved facilities for their rapidly increasing business. Mr. H. A. B. Dunning became a member of the firm in 1901 and under his management the manufacturing drug department outstripped the other activities of the firm until the total business has grown to approximately a million dollars annually.

—A nurses' training school was opened, September 15, at the Lincoln State School and Colony at Lincoln.

—The Holden Hospital, Carbondale, has been appraised with the idea of issuing bonds for new buildings and improvements. An expenditure of \$50,000 is contemplated.

—It is announced in the Davenport *Times* that Dr. Prudence Sterck, Moline, arrested several weeks ago in Davenport on a statutory charge, was fined \$200 and costs, August 22.

—Under the will of Delavan Smith, publisher of the Indianapolis *News*, \$100,000 is bequeathed to the Lake Forest Hospital, Lake Forest, for the erection of a permanent general hospital building.

—The new 100 bed addition to the West Suburban Hospital, Oak Park, will be ready for occupancy in October, it was recently announced by Superintendent Hockaday. This will bring the capacity of the institution to 250 beds.

—The Springfield Tuberculosis Association recently went on record as endorsing the proposition of levying a special tax for the purpose of caring for persons in Sangamon County suffering from tuberculosis. The proposition will be submitted to the voters in November and provides

for care of the tuberculous under the Glackin law of 1917.

—The regional conference on tuberculosis and public health will be held in Springfield, September 11-12, under the auspices of the Illinois Tuberculosis Association, forty-one counties of the southern section of the state participating. Dr. George T. Palmer, president of the state association, will discuss "The Broadening Program of Tuberculosis Work," and Philip P. Jacobs, Ph.D., editor of the *Journal of Outdoor Life*, New York, will give an address.

—At the state fair held in Springfield, free physical examinations were made by experts of the state department of public health, under the direction of Dr. Isaac D. Rawlings. Blood pressure tests were made and registration cards with height and weight were given out. An annual examination was urged for every one. At the Pageant of Progress, in Chicago, more than 15,000 persons were so examined in a booth in charge of physicians. Free examinations were made at the Central States Fair at Aurora, and at the fair at Kankakee.

—Colonel Herman A. Metz, president of the H. A. Metz Laboratories, Inc., was nominated for Congress on the Democratic ticket in the 17th Congressional District in the City of New York, in the Primaries on September 20.

Colonel Metz was formerly a representative in Congress from the 10th Congressional District of Brooklyn and made a very enviable record as a member of the lower house.

Colonel Metz was the first Comptroller of the Greater City of New York, and through his efforts the city was placed on a firm financial foundation.

—The personnel of the state board of medical examiners which will take up the task of revoking physicians' licenses issued illegally during the administration of W. H. H. Miller as director of registration and education was announced October 2 by Addison M. Shelton, Miller's successor.

The new board includes Dr. M. L. Harris, president of the Illinois State Hospital association; Dr. Gilbert Fitzpatrick and Dr. A. H. Geiger of Chicago; Dr. L. C. Taylor of Springfield, and Dr. W. H. Gilmore of Benton, Ill. Dr. Taylor and Dr. Fitzpatrick were ousted from the board

by Miller before he was put out of office by Gov. Small.

## Deaths

THOMAS J. BALHATCHETT, Chicago; Rush Medical College, Chicago, 1891; died, September 16, aged 56, at his summer home in Macatawa, Mich.

ADELAIDE C. DUNCAN, Chicago; Woman's Medical School of Northwestern University, Chicago, 1895; member of the American Academy of Ophthalmology and Oto-Laryngology; died, June 24, aged 56, from bronchial asthma.

JOHN A. W. FERNOW, Chicago; College of Physicians and Surgeons, Chicago, 1901; died, September 2, aged 59, from generalized carcinoma of the abdomen.

PENUEL HARROD, Avon, Ill.; Medical College of Ohio, Cincinnati, 1866; died, August 30, aged 77.

CHARLES W. LILLIE, East St. Louis, Ill.; Beaumont Hospital Medical College, St. Louis, 1888; Councillor for the 9th district, Illinois State Medical Society; city and state health officer; formerly professor of chemistry and toxicology at St. Louis College of Physicians and Surgeons, St. Louis; at one time president of the St. Clair County Medical Society; died, August 31, aged 74, at St. Mary's Hospital, following an appendectomy.

PHILIP HENRY MATTHEI, Chicago; Rush Medical College, Chicago, 1860; University of Göttingen, Germany, 1874; died September 11, aged 88, from senility.

FREDERIC MILFORD PENDLETON, Quincy, Ill.; Rush Medical College, Chicago, 1883; member of the Illinois State Medical Society; aged 63, died, July 6, at the Presbyterian Hospital, Chicago, following an operation for bladder trouble.

FRED H. SCHOLS, Chicago; College of Medicine and Surgery (Physio-Medical), Chicago, 1910; died, September 12, aged 51, from heart disease.

JAMES H. STIPP, Putnam, Ill.; Rush Medical College, Chicago, 1879; died, August 17, aged 70, from paresis.

ALEXANDER RIGHTER CRAIG, Chicago; Medical Department, University of Pennsylvania, Philadelphia, 1893; secretary of the American Medical Association since 1911; died of uremic poisoning while on vacation at Port Deposit, Maryland, September 2, aged 54. After his graduation he served as resident physician in the Philadelphia Policlinic Hospital, 1893-4, and practiced medicine in Columbia, Pa., and Philadelphia until 1911. Dr. Craig represented Pennsylvania in the House of Delegates from 1903 to 1910 and had been a member and chairman of many important committees. In 1920 he was granted the honorary degree of Doctor of Science by Franklin and Marshall College, his alma mater.

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## Original Articles

### EFFECTS OF HYPO-THYROIDISM\*

JAMES H. HUTTON, M. D.  
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This paper will be devoted largely to a discussion of the effects of thyroid insufficiency. Most of the statements made have been confirmed in my own work. The others have been reported by numerous other observers in various languages. But slight reference has been made to theory. I want to emphasize heredity as a predisposing cause. This condition runs through several generations of the same family; being transmitted especially through the mother's side of the house. Barrett reported a hypo-thyroid family a few years ago in which more than half of each of the six generations studied exhibited the effects of thyroid lack.

No cell, whatever its nature, attains the morphological completeness necessary to the perfect accomplishment of its function without an essential quantity of thyroid secretion. The thyroid occupies about the same relation to the body that the ignition system does to the automobile. And these patients are "missing on one or more cylinders," depending on the degree of thyroid insufficiency.

Most of the signs and symptoms of this condition are dependent on lowered metabolism, both anabolism and catabolism. Its effect on anabolism is shown by malnutrition, imperfect assimilation and thinness or even emaciation. This is most frequently seen in children and is emphasized by men who work with children. It is seen sometimes in adults. Whether it then represents an early stage or mild degree of insufficiency I can not say.

The following is a brief outline of the whole subject of hypo-thyroidism. This paper takes up the discussion at "E"—Consequences of hypo-

thyroidism and attempts to elaborate the various subdivision of that phase of the subject.

### HYPO-THYROIDISM

#### Types:

- Inherited: In child—cretinism; in adult—myxedema. Rare and severe.
- Acquired: Chronic benign thyroid insufficiency.
- A. Degree: milder than the inherited type; will yield to thyroid medication.
- B. Frequency: very common.
- C. Age: greatest number between 40 and 50; next greatest number between 20 and 30.
- D. Cause:
  - a. predisposing; inherited unstable thyroid
  - b. exciting; physical and mental drains
- E. Consequences of hypo-thyroidism:
  - suboxidation (lowered basal metabolic rate)
  - defective metabolism
  - a. lowered anabolism
    - malnutrition
    - imperfect assimilation
    - emaciation
  - b. lowered catabolism
    - cellular infiltration
    - "obesity"
    - fatigue, somnolence
    - rheumatoid pains

#### Disturbed functions and nutritional disorders:

1. endocrine
2. gastro-intestinal:
  - constipation, intestinal stasis, flatulence
3. hepatic:
  - large and tender liver and sensitive gall bladder
4. urinary:
  - high sp. gr., low urea, large amount of indican
  - frequency, enuresis (nocturnal)
5. dermal:
  - dry coarse skin, brittle, striated nails, poor teeth.
  - dry hair, gray or falling out
6. osseous:
  - pre-adolescent, retarded or stunted growth
  - postadolescent, brittle, slow healing of fractures
7. respiratory:
  - congestion of mucosa with frequent colds, slow respiratory rate, oppression, dyspnea
8. muscular:
  - tired, weak, stiff, easily fatigued, relaxation of ligaments
9. nervous:
  - pains, resembling neuritis or tabes, numbness, tingling, delayed transmission of impulses
10. mental:
  - retarded development; somnolence, forgetfulness, loss of power of concentration.
11. blood:
  - mild secondary anemia, decrease of poly-nuclears, increase of mononuclears
12. circulatory:
  - slow pulse rate, blood pressure not of diagnostic significance, thyroid frequently benefits hypotension, hypo-thermia, always cold, body temperature below normal, suffer from the cold

The most pronounced and most frequently seen signs and symptoms in adults are the result

\*Read before Illinois State Medical Society at the meeting in Chicago May 16, 1922.



of a lowered catabolism. When the cell degenerates the protein molecule breaks up into its component parts to be eliminated by the skin, lungs, intestines and kidneys. When thyroid activity is impaired the products of decomposition cease to be carried off at the required rate and accumulate in situ. Thus the cell becomes clogged or infiltrated with wastes. This infiltration is responsible for many of the symptoms.

*The Endocrines.* The Pituitary, the Thyroid, the Thymus, Parathyroids, and Mammæ, the pancreas, Adrenals and Ovaries constitute the Endocrine Glands. I will describe the effects on each of these very briefly.

*Pituitary.* Hypo-pituitarism involving one or both lobes is the most frequent accompaniment of hypo-hypothyroidism. This is true whether the condition is pre- or post-adolescent. The most striking examples of this are the very fat child and the undeveloped child whether the lack of developments affects the stature or the genital system or both. Very fat adults usually suffer from a combination of lack of function of both the pituitary and thyroid glands. Many of these unfortunates cannot be reduced in flesh by the administration of either gland alone but will lose a great deal of weight when given a combination of the two. Their gain in health corresponds to their loss in weight. In this condition a measurement of the metabolic rate is of as little value as in any condition involving the thyroid. Some of these cases will show a rate above normal and yet do well on moderate doses of thyroid.

*The Thyroid.* The size of the gland varies from very small to a considerable goiter. Of itself the size has little significance as indicating the activity of the gland. When the gland is large it is the result of *Compensatory Hypertrophy*. Most colloid goiters appear during adolescence and are accompanied by a metabolic rate of from  $-8\%$  to  $-15\%$ . These tend to disappear about the twenty-fifth year though there is a tendency for a thyroid once over-loaded with colloid, irrespective of its functional activity to retain more than the normal amount, sufficient to make it easily palpable throughout life.

*The Thymus, Parathyroids and Mammæ.* The evidence regarding the relation of these to the thyroid is so indefinite and conflicting that I do not wish to make any statement regarding it.

*Pancreas.* This gland is always overactive.

These patients always have a high sugar tolerance.

*The Adrenals.* There appears to be a hypo-activity of these organs. There is more evidence experimental and clinical in favor of this view than any other. The fact is that we know little about the function of the adrenal cortex—and this may be the most important part of the gland. Until our knowledge along this line is more complete than at present any discussion of thyroid and adrenal relations will have to do more with theories than with facts.

*The Ovaries.* There is a difference of opinion regarding the relation of the thyroid and the ovaries. One school believes they are synergists and mutually stimulate each other while the other school believes they are antagonists. Engelbach and Tierney are the foremost exponents of the latter belief. They point out the fact that cretins mature much earlier than normal girls and that the periods of the hypo-thyroid girl are characterized by their early appearance, often occurring before the age of 12, regularly, profuseness of flow and freedom from pain.

On the other hand more cases of myxedema occur about the time of the menopause than at any other period of life. In my series of 30 cases in or past the meno-pause 22 were hypothyroid, having most of the classical symptoms and a basal metabolic rate from  $-12$  to  $-30\%$ . In the County hospital we metabolized 28 cases following the removal of both ovaries. Of these 11 had a metabolic rate well below normal limits while only 3 showed a rate definitely above normal.

In hypo-thyroidism menstrual abnormalities are common, ranging from amenorrhea to menorrhagia or metrorrhagia, and seeming to depend on the degree of thyroid lack. If the thyroid condition is of recent onset or of mild degree the menstrual loss is apt to be slight while if it is more pronounced the menstrual loss is greater and the intervals are shorter. The greater the thyroid deficiency the greater the menstrual loss. Much has been written about the thyro-ovarian syndrome. This is for the most part one of hypo-thyroidism. Irrespective of which gland is first involved the terminal condition shows a preponderance of thyroid symptoms. It may occur at any time after puberty. The first complaint is a lumbo-sacral pain which may radiate down one or both legs and is fre-

quently relieved during the menstrual period. It cannot be explained by any static condition nor relieved by orthopedic measures. Formerly ventral fixation was a favorite treatment for it. Headache and dizziness are common and an increased blood pressure even up to 200 mm is not rare. Later trophic disturbances appear, there is an itching of the skin and hair and nail signs are frequently added. The hands feel stiff and boggly in the morning and rings can be turned with difficulty at that time.

The menstrual history of a hypo-thyroid woman is longer than that of her normal sister. The periods begin earlier in life and continue later. Some of these women feel better during pregnancy and lactation than at any other period of their lives.

*Gastro-intestinal disturbances* are common because of the infiltration of the muscular nervous and secretory elements. The appetite is usually poor. This is especially true in children. Gastric and duodenal ulcers are frequent in hypo-thyroid patients. This is interesting as the gastro-enterologists now speak of treating the patient instead of the ulcer.

Intestinal stasis is the rule. The scantiness of the secretions combines with muscular paresis to produce the most obstinate constipation. This, accompanied by excessive fermentation, flatulence, gastric distention and eructations, may be followed by ptosis of the stomach and colon in subjects with weak abdominal walls. Kinks and exaggeration of normal curves is frequent because the intestines tend to fall away from the mesenteric attachments. This produces a sense of weight in the epigastrium. These people like wine with their dinner; they feel the need of it to offset their chilliness and depression. This was true even before prohibition. They also like to sleep after eating.

Many of Lane's symptoms of intestinal toxemia, hypo-thermia, headache, rheumatoid pains, mental depression, etc., appear to have a hypo-thyroid background. Many cases of mucous colitis are accompanied by hypo-thyroidism.

*Liver and Gall Bladder.* Hertoghe lays considerable stress on hepatic disorders. In marked cases the liver is passively congested, enlarged, and tender on pressure. One of the most typical cases I ever saw was that of a woman about 55 years of age. She had all the classical symptoms and a basal metabolism 24% below normal.

Her liver was about 5 cm. below the costal margin and rather tender.

The gall bladder is tender, especially in cases of long standing. Here as elsewhere the epithelium desquamates rapidly leaving a tender gall bladder exposed to the irritating bile. Masses of desquamated epithelium form the centers for calcareous accretions. Cholelithiasis is common in myxedema and not at all rare in minor degrees of hypo-thyroidism. The strawberry gall bladder so much in vogue among surgeons a few years ago was probably of hypo-thyroid origin.

*Urinary.* The kidney is not often severely affected. There may be a small amount of albumin and a few casts but these conditions clear up rather rapidly under treatment. The urine is usually scant in quantity, of high specific gravity and low urea content and very frequently contains a considerable quantity of indican. The majority of my own cases exhibited a high degree of indicanuria. It contains a large amount of epithelial cells. There is a normal creatinuria in children up to the twelfth or fourteenth year. This does not occur in subthyroid children.

The rapid desquamation of their epithelium leaves the bladder walls very sensitive and so leads to frequent urination in adults and enuresis in children, especially nocturnal enuresis.

Many of these cases are treated as nephritics because of their color, edema and urinary findings. If one even considers myxedema this mistake will not be made.

*The Skin.* In color, varies from buff pink to alabaster. There is usually a flush over the malar prominences, this is especially true in adults.

There is a good deal of non-pitting edema present in various parts of the body. The eyelids are puffy producing a narrowing of the palpebral fissures and a consequent tendency to sunken or squinting eyes. The ankles appear edematous but do not pit on pressure. This is a very frequent sign of hypo-thyroidism.

In texture the skin is coarse and dry. This is probably due to the infiltration which renders the sweat glands inactive. These patients perspire very little, even in hot weather. The epithelium deteriorates and falls prematurely. To this is due many cases of unsightly blepharitis especially in old people, the palpebral margins being insufficiently protected from the erosive action of the lachrymal secretion. Many dermatoses are perhaps due to the same cause; in infants it is

eczema, in adolescents acne, and in adults, pruritus, ichthyosis, furunculosis, etc.

*The Hair.* The hair is dry and there is a tendency to dandruff. It ages prematurely, becoming gray or falling out enough to produce baldness. In the hypo-thyroid families reported about half of each generation were bald while quite young, some as young as six years of age. I do not believe the baldness follows any special pattern although a number of cases of alopecia areata seem to be of hypo-thyroid origin.

The outer third of the eyebrow is frequently absent or very thin. This is known as the "signe du Coureil." The body hair is scant, and the legs are almost destitute of a hair suit. This is a frequent and important sign.

*The Nails.* They are poorly nourished and brittle. They are striated, ridged, and seamed, while white spots and defective lunular markings are common. They are usually thin but at times become quite thick. The same condition is true of the toe nails but in a lesser degree. In Barrett's hypo-thyroid family several members of each generation lacked the distal third of the finger nails.

*The Teeth.* There is delayed eruption of the milk teeth. Instead of appearing at the sixth month they may be delayed even up to the thirteenth. Cusp and enamel development is imperfect and the position irregular. The teeth are poorly set with a tendency to irregularity of placement, particularly the upper canines which are often misplaced markedly either anterior or posterior to the normal tooth line.

In adults the teeth are usually poor and the gums in bad condition. These people are very prone to pyorrhea. Many now regard this as a local manifestation of some constitutional disorder. Certainly it is a frequent accompaniment of hypo-thyroidism.

*The Bones.* Pre-adolescent hypo-thyroidism is marked by under growth of all bones. This produces a short, stocky individual, his height being some measure of the thyroid insufficiency. The epiphysis remains open longer than usual. In one of my cases, a woman 55 years old, the epiphysis of the fibula was still unclosed. One carpal bone should be developed to its periphery for each year of life. Engelbach reports cases in which these bones were not fully developed at 15. A rachitic curve in the tibiae is very common in these children.

Post-adolescent hypo-thyroidism is marked by brittleness of the bones and the slow healing fractures.

*Respiratory.* There is a persistent congestion of the mucosa of the upper respiratory tract. These patients catch cold easily and recover with difficulty. Infiltration of the larynx and vocal cords causes a huskiness of the voice which may amount to the loss of the singing voice. In one of my cases that had had a thyroidectomy the voice had a peculiar huskiness. This huskiness increased or decreased as the man's general condition improved or regressed.

The respiratory rate is slow. In 50% of my cases the rate was less than 18 per minute and in many it was 12. One girl of 20 years had a rate of 10 and a basal metabolism of -15%.

The infiltration of the bronchi and bronchioles causes a narrowing of their lumen, which leads to respiratory oppression and varying degrees of dyspnea sometimes mistaken for asthma. These are the asthmas cured by thyroid.

This congestion extending to the eustachian tubes and to the nerve centers accounts for many cases of tinnitus aurium. This same congestion of the respiratory mucosa accounts for much of what Percy Hammond called the "National Catarrh."

*Muscles and Ligaments and Cartilages.* Infiltration of the muscles causes weakness, stiffness and soreness. There is a constant complaint of weariness out of all proportion to the exertion. They are born tired and feel worse in the morning than they do later in the day after they have gotten limbered up. These are the people who sit down at every opportunity and lean against something when they cannot sit.

Relaxation of the ligaments occurs. The ankles turn easily. Some degree of flat foot follows the relaxation of the plantar ligaments and fascia and there is a good deal of pain in the tarsus and heel even when no foot defect can be detected. There is an exaggeration of the normal lumbar curve in the spine, especially in children. Pain in the back is a very frequent complaint; this is located in the lumbar and sacral regions, and between the scapulae.

Rheumatoid pains in and about the joints are the result of the infiltration of the muscles, ligaments and cartilaginous tissue. These are some of the last symptoms to disappear because of



the slowness of the exchanges in the cartilaginous tissues.

Many adults will give a history of not having played as other children because they were too weak or tired out too quickly.

*Nerves.* The nerve cell suffers from the same infiltration. As a consequence we have pains that resemble neuritis and sometimes the lightning pains of tabes. Jelliffe has recently reported several cases in which that mistake has been made and the case entirely cleared up under thyroid medication. This same condition probably explains many of the paresthesias, numbness and tingling encountered and some cases of pruritus.

*Mental.* Hypo-thyroidism is the etiological factor in a large percentage of delinquent backward and mentally deficient children. These are the dull, disinterested, lazy children.

In adults retrograde mental changes are the rule. Somnolence is especially common, and more marked during the day. They go to sleep on the street cars or when they sit down to read. Much more sleep is required by them than by the normal person. There is a slowness of ideation, forgetfulness and loss of power of concentration.

Among the rich these are the uncured invalids; the misunderstood who have alienated themselves from their families by their constant complaints and their indifference.

Among the poor the thyroid insufficiency of the mother is reflected in the home in the dirt, disorder, lack of economy and inability to make both ends meet. She is physically too weak and mentally too sluggish to rise to an equality with her tasks.

French writers believe there is a hypo-thyroid factor in many cases of epilepsy. They support their belief with enough evidence to warrant an investigation of the thyroid function of every epileptic coming under one's care.

*The Blood.* A mild secondary anemia frequently accompanies hypo-thyroidism. The most significant change is in the differential count. There is a reduction of the polynuclears usually to 60% or less with a corresponding increase in the small mononuclears. Janney and Henderson report a small series in which the average was: polynuclears 55%, small mononuclears 6%. In my series of cases the polynuclears usually numbered less than 60% and the small mononuclears

more than 30%. Some writers regard the blood count as having some diagnostic value in this condition. There are so many other measures that are much simpler and of more significance that the evidence offered by the blood count has little relative value.

*The Circulation.* The pulse rate is slow; in most cases being less than 60. The blood pressure is of no diagnostic significance. It is frequently very much elevated and many cases of hypertension have been relieved by thyroid therapy; relieved in the sense that the pressure has returned to normal and the symptoms have disappeared. On the other hand more cases of hypotension have been benefited by thyroid therapy than by any other measure.

Their circulation is poor, these patients will tell you. Their hands and feet are always cold; in fact their whole body is cold. They suffer from the cold, wear more clothes than a normal person and require all the bed covering that is allowed them. The body temperature is usually a degree or more below normal.

*Pains and other complaints.* Headaches, either frontal, occipital or general dull aches. They differ from migraine in that they improve as the day goes on, or if present constantly as many of them are, they are less severe and not accompanied by visual disturbances.

Backache is a very common complaint. In my experience it is most frequently located between the shoulder blades. Most writers say its favorite location is in the lumbo-sacral region.

The trapezius muscle is another location where pain is frequent.

Pains in the feet have been mentioned previously. Pains resembling neuritis or tabes have also been mentioned.

Stegman has just recently reported a series of cases in which a number of eye conditions were accompanied by a basal metabolism below normal. These conditions included vitreous opacities, corneal ulcers and lens opacities of various kinds. Well marked cases of hypo-thyroidism very frequently show retinal changes resembling those of nephritis.

*Diagnosis.* History; weight at birth, development, age of teething, walking, talking. Progress through school, infections. If a woman her menstrual history, i. e., age of beginning, regularity, pain or lack of it, amount of flow. If past the menopause the age at which it occurred.

Symptoms; just enumerated.

Physical examination. There is no condition where one can get more information by inspection than in hypo-thyroidism. Hair, nails, teeth, skin, stature, weight, distribution of obesity if any be present. These patients are fat all over. The extremities are well padded, even the fingers and toes showing this condition.

Laboratory work. Blood, urine, and basal metabolism. The last is always below normal when the thyroid is the only gland at fault. This is not always so when the pituitary is also involved.

*Differential.* Be sure that some other condition than the activity of the thyroid is not responsible for the patient's condition.

*Treatment* is specific: Thyroid gland in various dosage. Be sure that the dose is not too large and do not give the patient a large supply of medicine and then bid him good-bye. Keep him under observation until you find out how much thyroid he can tolerate. This is a powerful remedy and must be watched. The dose depends somewhat on the degree of the insufficiency. One-half grain t. i. d. is enough for the minor cases. They should be seen every five days, increasing or decreasing the dose as indicated by the change in the pulse rate. These patients should be seen at least once in ten days as long as they are taking thyroid. And at every visit one should look very carefully for signs of thyroid intoxication.

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#### SOME NEWER PHASES OF VITAMIN STUDIES\*

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The vitamins have been occupying, with increasing interest, the attention of a number of the foremost investigators in this country and abroad for the past ten years. While this interest in the study was intensified by the observations that were made during the late war, we must give credit for the real scientific stim-

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ulus to such men as Eijkman, Holst and Frolich, Funk and associates, Osborne and Mendel, McCollum and associates, Hart and Steenboch, Hess, Hopkins and Drummond.

As a result of the earlier reports of these workers, other scientists have entered this field of research and today we have investigations being published from all over the world representing not only the largest educational schools but medical institutes and scientific laboratories as well.

The fact that there is such an array of workers should serve to convince the most skeptical that the subject of vitamins, which is so closely interwoven with nutrition, is one about which every physician, nurse and dietitian should have, if possible, firsthand knowledge. Unfortunately so much has been printed in the daily press and popular magazines, by men who have had no experience in this subject whatever, that unless attention is directed into proper channels, one will gain entirely erroneous ideas as to what the vitamins are.

We shall, therefore, endeavor to present some of the most recent viewpoints as they may relate in a practical way to this subject, and show thereby that some of the fundamental principles of metabolism are very dependent upon an adequate supply of the vitamins. First, however, let us consider the question of testing and concentrating the different vitamins.

*Methods of testing—Standardization.* As with any complex research problem, the knowledge concerning these vitamins has been determined with much more difficulty than the average individual realizes. For example, there is no short or rapid method of ascertaining whether or not a vitamin is present in a substance. Chemical methods have been of very little help thus far. It has required most exact and careful execution of details in order to reach a stage in the experimental work where we can be reasonably certain that conclusions are justified. To illustrate, the only means at hand for carrying out this work necessitates the use of small animals such as white rats, pigeons, chickens, dogs or guinea-pigs. These animals must be fed in such a way that one can be absolutely certain as to the composition of the diets. They must be observed, weighed and given special care during the onset of the deficiency diseases to see that they are not

exposed to any infections, etc. Such work, to give most accurate results, calls for a knowledge of the previous dietary history of the animals and their parents, it entails months of study, keen observation, and experienced supervision. When one also considers that there is a certain amount of individual idiosyncrasy and variation even between animals of the same species, breed, age and sex, he realizes something of the complexity of unraveling the intricate phases of these problems. Those who are inclined to be critical have only to look back at some of the classical researches and investigations of such men as Pasteur, Liebig, and Emil Fisher and then patiently look forward in anticipation when many of these problems will be solved.

It is natural, therefore, from what has been stated, to conclude that we can only approximate quantitatively the vitamin content of any of the materials being studied. The idea of standardized methods or exact quantitative measurements of vitamins is in its infancy. Scientific investigators in this country are beginning to feel that possibly this work has reached a stage where something can be done toward such a step, but it will be sometime before these desires can be accomplished satisfactorily. The fact that various laboratories have not settled definitely upon any uniform experimental conditions and that the vitamins have been isolated only in a crude way, serves to discredit any statements that may be made relative to exact quantitative values. True it is that each investigator may compare his own results within limits, but this simply means that he has a measure which does not necessarily compare with any other worker in this field.<sup>1</sup>

*Concentration and isolation.* Without going into details as to the classification of vitamins, we may group them as follows:\*

1. Water-soluble types:

Vitamin B—(antiberiberi) Funk, McCollum.

Vitamin C—(antiscorbutic).

Vitamin D—(yeast stimulus). Williams, Emmett, Funk.

2. Fat-soluble types:

Vitamin A—(antiphthalmic). McCollum, Osborne-Mendel.

Vitamin E? (antirachitic). McCollum and associates.

Possibly the parenthetical terminology that is

\* For more detailed citations see Vitamins by Sherman and Smith. Williams & Wilkins, Baltimore.



given to these vitamins is unfortunate, for while we are interested in the ultimate outcome of these deficiency diseases, we are particularly concerned with derangements that are brought about in the systemic cycle. The fact that there are definite clinical syndromes, as the result of the absence of certain of these vitamins in infancy and childhood, has suggested to eminent medical men that a partial or incomplete withdrawal of one or more of the vitamins may have a definite bearing and influence on the etiology of various other diseased conditions. In other words, we are concerned on the one hand with preventive medicine where diet, hygiene and sanitation are to be considered, and on the other, with treatment of the sick where medication and proper care are additional factors.

Reference was just made to the fact that the vitamins have not been isolated to such an extent that we know their exact chemical nature. Much emphasis has been put upon this point by some of the critics, even trained pathologists. It is true that our knowledge of vitamins is far from what we would desire, but are we justified in taking the position that because we have only limited precise information as to the chemical nature of these substances, we should not proceed to make practical application of the facts we do possess and thereby broaden our knowledge of nutrition? If such a system had been in force during the past decade or two, what progress would medicine have made? Where would we be, for example, with our medical knowledge of the vaccines, antitoxins, and pollen extracts, or with that of the digestive enzymes and most of the endocrine glands, if we waited until the exact chemical knowledge of each was determined? As a matter of fact, some of these products are of as indefinite chemical composition as the vitamins. They are mixtures of substances containing the active principles in varying degrees of concentration. Diligent and untiring research for many years on the isolation of most of the active principles in these substances has not brought to light the information that scientific workers have been so desirous of obtaining—except in the case of the adrenal and thyroid glands where we have adrenalin and thyroxin.

More specifically, the vitamins have been separated in much the same way that the substances referred to above were concentrated, that

is, by extraction and elimination of as much as possible of the foreign and inert materials—proteins, fats, carbohydrates. We now know that oxidation, reduction, increased temperature, hydrogen ion concentration, solubility in certain chemicals, contact with some metals, physical state as dryness or dilution, and the factors time and sunlight, all must be borne in mind in the concentration and preservation of vitamins. These facts are being taken into account by the investigators in this field and should aid greatly in future work.

Seidell<sup>2</sup>, of the Hygienic Laboratory, who has done much on the subject of concentrating vitamin B, has reported findings where he was able to reach the highest degree of activity that any of the workers has yet published. His studies suggests that this vitamin B may not be as complex as was originally thought. If this is so we may anticipate that some one will come forward with fairly exact knowledge in due time. In our laboratories, we have obtained a concentration of this vitamin that is about double the strength of Seidell's.

The vitamin C (antiscorbutic) has been investigated less extensively than vitamins B or A. The experimental method of testing for this vitamin is such that recently workers have come to realize that one can have only a general idea as to the degree of potency of the extracts. In fact, some are now doubtful as to the dependence that one should place on the value of the biologic test with guinea-pigs. La Mer<sup>3</sup> who has done some extensive work on the stability of the vitamin C from tomato, claims to be able to obtain relatively quantitative results. Others report that his method is not satisfactory and propose their own basal diet. All in all, the method of testing vitamin C is perhaps the most unsatisfactory of any at this time. From our work on vitamin C, it would appear that some of the critical experimental factors to be borne in mind in carrying out the test are: 1—preliminary feeding to select animals so as to eliminate inferior ones and have uniformity in weight and vigor; 2—proper and adequate supply of fat-soluble vitamins along with the other nutritive ingredients; 3—presence of a proper roughage; 4—uniform mild temperature, averaging about 25°C, and 5—a systematic and practical method of handling the animals by an attendant who has had experience with guinea-pigs.

As to the fat-soluble vitamins, Steenboch and associates<sup>4</sup>, and Drummond and associates<sup>5</sup> have done the most extensive work on the chemical properties of fat-soluble A. It has been shown that this vitamin can be treated with acids or alkalis and heated; and that it is non-saponifiable, soluble in ether, affected by oxygen, and that potent acetyl compounds can be prepared. These facts, together with much information that has been gained previously also indicate that progress is being made in separating this type of vitamin.

It is of particular interest to bear in mind the important fact that the physiologic tests made on the higher concentrates indicate that they have the same activity qualitatively as the cruder extracts, and therefore these particular vitamins, instead of being more elusive, are in reality becoming more tangible and more real. In passing, it is also noteworthy to observe that of the three vitamins that have been studied most extensively, the methods of separation have been different in each case, the deficiency symptoms produced have not been the same, and further one kind of vitamin cannot replace another. That is, these vitamins have a specificity and an entity.

#### PATHOGENESIS

The work on vitamins has been carried out under such extreme and extraordinarily trying conditions that it is remarkable so much has been accomplished to date. Furthermore, it is interesting to observe, as the later work is being published, that many of the earlier observations are being confirmed and elaborated upon by histological study. In much of this newer work, it has been the good fortune of some of the investigators to have had the medical training or to have the collaboration of pathologists to supplement their bio-chemical knowledge. Thereby, the interpretation of results has assumed a broader scope. It will be of particular interest, therefore, to consider this phase of the study and note wherein the vitamins play an important rôle in the physiologic economy.

#### VITAMIN B

In making the studies with the vitamin B the pigeon, chicken, rat and dog have been used primarily. The withdrawal or diminished supply of vitamin B, when all the other factors in the diet are properly adjusted, results in a gradual loss in weight, and a cessation of growth. Food consumption decreases and finally the adipose

tissue is drawn upon. In the late stages, the animal reaches a condition described by many as polyneuritis which manifests itself by a partial paralysis of the posterior extremities, in the rat and dog, and often by a retraction of the head and neck in the pigeon and chicken.

*Appetite, digestion, metabolism:* Karr<sup>6</sup>, Cowgill<sup>7</sup>, Lumiere<sup>8</sup>, Cramer<sup>9</sup>, and Wright<sup>10</sup> consider this vitamin B as one relating specifically to the appetite. Thus, while withdrawal of vitamin B not only causes limited eating, it is to be noted that treatment of the sick animals is soon followed by an increase in appetite and food consumption. The lack of this vitamin brings about what McCarrison<sup>11</sup> has called an intestinal stasis as shown by the poor muscular and neuro-muscular tonus which in turn also affects some of the digestive secretory functions. The administration of a vitamin B concentrate brings about an increased tonus, evacuation of the tract, and correction of the polyneuritic manifestations, followed by increased appetite and vigor. During the onset of the disease the fowl more than the rat manifest symptoms of toxic poisoning.

Naturally, the question of starvation enters into the discussion. A sharp differentiation cannot be made between the two conditions—avitaminosis and inanition. It is interesting to note in the following chart, however, that when we compared pigeons that were permitted to eat their food, ad libitum, with those that were force-fed, there was practically no difference between the two groups in the rate at which they lost weight. That is, the force-fed birds could not make use of their extra feed to prevent their loss in weight. Also as shown in Charts I and II feeding rations with varying amounts of protein and carbohydrates had no effect. Vedder<sup>12</sup> and Funk<sup>13</sup> have presented data along this same line.

In this case, Lumiere and Wright's deduction would seem to apply, namely, that the food assimilation is limited, due to the fact that the intestinal activity is practically dormant. The food moving very slowly ferments and produces toxic bodies which in turn reach the blood stream and produce many of the symptoms generally observed under such conditions.

Let us also consider the influence of the vitamin B upon metabolism. Karr<sup>14</sup> has shown that the absence of vitamin B has no appreciable effect on the protein metabolism. Kennedy and Dutcher<sup>15</sup> in working with dairy cows concluded,

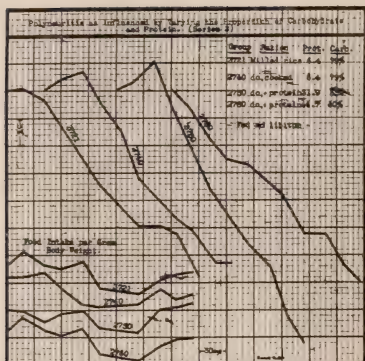


Chart 1. The pigeons were first given all the feed they would consume. They were then force-fed after the 20th day. It will be noted that all four groups lost weight at practically the same rate, regardless of the quantity of food, or its quality in terms of increased amount of protein or carbohydrate.

inasmuch as the quality of the food in terms of vitamins influenced the appetite and also the vitamin content of the milk, that the metabolism was stimulated by vitamins. Schaumann<sup>16</sup>, and Abderhalden<sup>17</sup> with pigeons, and Anderson and Kulp<sup>18</sup> with chickens have reported studies in metabolism and respiratory exchange. The first apparent effect to be observed was the loss of appetite followed by loss in weight and heat production. They also found that with the onset of the disease there was a retardation in the digestive and assimilative processes, and even though the animals received a normal supply of

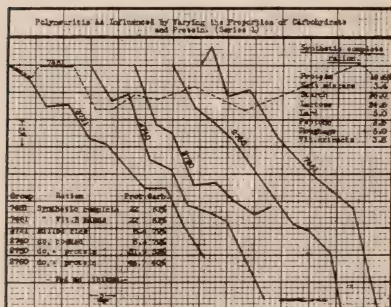


Chart 2. Control groups were fed in this case synthetic rations with and without the vitamin B, numbers 7451 and 7461 respectively. The other groups of pigeons were given rations with varying proportions of protein ranging from 44.7 to 64 per cent; and of carbohydrate from 40 to 79 per cent. The effect of the withdrawal of the vitamin B, seemed to act independently of either the protein or carbohydrate, and also of the mineral salts.

food, furnished by force-feeding, the heat production dropped to as much as 40 to 50 per cent. The respiratory quotient during vitamin B starvation was practically the same as that for the normal basal metabolism. Upon recovering, following treatments with extracts, the metabolism and heat production rose within a short time to the normal.

**Glandular Alterations:** Wherein the glandular secretions of the digestive tract are effected is not clear at present. For a time, Uhlmann<sup>20</sup> and McCarrison put forth the idea that the salivary, gastric, pancreatic and biliary secretions were retarded. Cowgill and Mendel<sup>21</sup> have lately found that in the case of the dog, there is no direct evidence that these glands are involved. Further, they show that Voegtlin's<sup>22</sup> idea, that vitamin B and secretin are the same, is not justified.

It appears from the work of McCarrison, Cramer and some preliminary studies of our own<sup>23</sup>, under the experimental conditions carried out by each investigator independently, that definite histological changes are brought about in the salivary glands, pancreas, spleen, thymus, ileum, colon and stomach. In fact, McCarrison lays much stress upon the influence of faulty foods on the gastro-intestinal tract and produces evidence to show that colitis and other diseases may result.

In young animals (pigeons, chicks and rats) on a vitamin B deficient diet, Funk and Douglas<sup>24</sup> were the first to note that the thymus became very much atrophied. This has been confirmed by several. The pancreas also showed a decrease in size. Various workers are particularly in agreement in that the adrenals are enlarged and the testes atrophied. Recently Dutcher<sup>25</sup> has reported an elaborate investigation with cockerels where he confirmed his former work and concluded that a vitamin B deficiency will cause a definite decrease in the weight of the testes. McCarrison's earlier work showed that under such conditions marked histological changes took place in the testes and that there was a lack of spermatogenesis.

With the adrenals, the opinions are somewhat conflicting as to the exact histo-pathological changes. Findlay<sup>26</sup> contends that there is a sort of compensatory condition existing between the sympathetic nervous system and the lipid material of the cortex. The immobilization of this



lipoid material interferes, he says, with the activity of the genital organs and with the proper formation of nucleic acid which in turn is essential to the activity of the nervous system. The increase in adrenalin may have an influence on the pancreas and pituitary glands and indirectly it may influence the digestive disturbance referred to above. On the other hand McCarrison<sup>11</sup> and Cramer<sup>9</sup> consider that there is almost a complete disappearance of lipoid from the cortex but both agree that the lipoid material is an important factor. Marine and Baumann<sup>19</sup> state that with a suprarenal insufficiency there is an alteration in the cortex and in turn a lowering in the heat production.

In either case, we can conclude that the change in the adrenals has affected in one way or another both the adrenalin and lipoid materials, and in turn this has had its influence on the muscular tonus on the one hand and the sympathetic nerve centers on the other. Both of these might account in part at least for the intestinal and genital disturbances.

*Blood and lymph:* Statements have been made to the effect that a diminished supply of vitamin B brought about a low red-blood cell count—secondary anemia—and also one of the leucocytes. The recent work of Findlay<sup>26</sup>, Cramer, Drew and Mottram<sup>27</sup>, and that of Happ<sup>28</sup> bears directly upon this point. Cramer and associates found, in comparing rats fed varying diets (vitamin-free, vitamin rich, low in vitamin B, and in vitamin A) that the animals on a diet low in the vitamin B had atrophy of the spleen, thymus and lymphoid tissue accompanied by a definite decrease in body temperature and number of the small lymphocytes, but no change in the other leucocytes. Cramer also observed that under such conditions, the supplying of an extract rich in vitamin B brought about a rapid readjustment to the normal—namely, an increase in lymphoid tissue and lymphocytes, and body temperature. In another report, Cramer and associates<sup>29</sup> show that under the conditions cited there was no effect on the number of red blood cells or platelets, when the other symptoms of deficiency were evident.

Happ<sup>28</sup> fed rats and brought them down to an advanced state of malnutrition by various diets including one lacking in vitamin B. There were no changes in the red blood cells, but leucopenia

was evidenced by a decrease in both lymphocytes and polymorphonuclears.

Cramer also reported an interesting case where he took stock rats that had not been receiving an abundance of vitamin B but yet an amount sufficient to maintain them in good health and normal condition, as judged by the fact that they were able to breed and rear their young. He fed some rats on their regular diet and some on a vitamin B rich diet, and observed no difference in temperature; but the rats on the higher vitamin B plane had considerably more lymphoid tissue. The average total number of leucocytes was 6,900 and 13,900, or in per cent the small lymphocytes were 66 and 77, respectively.

In the light of Cramers' findings, he concluded that vitamin B "has a favorable effect on the development of the leucocytes, and is associated with it in the general nutrition of the animal." He therefore considered the view that vitamin B is essential to all cells should be modified to the extent that its specific function is limited to those regions where due to its absence, lesions are produced in the lymphoid tissue in particular.

*Skeletal tissue:* Practically the only work that has been reported on the effect of the absence of vitamin B on bone is that of Shipley, McCollum and Simmonds<sup>30</sup>. They report in the case of rats, that there was a hemorrhagic condition of the leg bones, and that these bones were osteoporotic. Supplying the vitamin B corrected this condition.

*Summary on Vitamin B:* In general it may be stated that vitamin B appears, in the state of our present knowledge, to bear a relation to appetite, digestion, and assimilation. A partial or complete absence of this vitamin seems to affect in some way certain secretions of the digestive system, and to alter the functioning of some glands, so that there is a marked hypertrophy of the adrenals, atrophy of the testes, thymus and possibly the spleen. The amount of lymphoid tissue is decreased and also the leucocyte count. Boney tissues may be affected at times. This type of vitamin is essential to the normal activity of the sympathetic nervous system.

#### VITAMIN C

As we have already stated, the methods for studying this vitamin make it difficult to carry out satisfactory experiments.

On a scurvy producing diet, guinea-pigs begin to lose in weight in 10 to 14 days, concurrent with a decrease in the appetite. The animals become listless and drowsy. The third week they take the "face-ache" position, lying on their side. The posterior extremities become stiff and rheumatic. Later, the animals lose rapidly and die about the 21st to 28th day.

It may be said that when this vitamin is absent or low in amount the effect produced appears to relate to calcium metabolism. Howe<sup>31</sup>, in his intensive studies on dental conditions, considers that vitamin C is a very important factor in infancy and childhood and indirectly late in life. Both Howe, and also Zilva and Wells<sup>32</sup> report that the pulp of the teeth degenerates as a result of vitamin C deficiency. Howe suggests that the etiology of pyorrhea may be associated in some instances with faulty diet in childhood.

Robb, Medes, McClendon and associates<sup>33</sup> have made an extensive study of the relation of scurvy to preservation of teeth. They found that the calcium output per day per 100 grams weight on the scurvy diet was  $2\frac{1}{2}$  to 3 times greater than the normal. The osteodentine in the pulp cavity was approximately 100 times as great as in the normal.

McCarrison, Bassett-Smith<sup>34</sup>, LeMar and Campbell<sup>35</sup> have shown that the adrenal glands are hypertrophied in scurvy. The-adrenalin content is decreased and there is an involvement of the cortex. Our work indicates that there is often a calculi formation or deposit in the bladder.

There is some uncertainty as to the regularity in the development of the looseness of teeth and bleeding of the gums. It has been our experience with our basal diet, that unless the animal lingers much longer than the average expectation, the teeth show only very slight macroscopic changes. In the course of 3 to 4 weeks, when most of our pathological control pigs succumb, the teeth are not appreciably affected, although many of the other symptoms are in evidence, as hemorrhage of the joints, hypertrophied adrenals and "beading" of the ribs. We would reaffirm that the amount of fat-soluble vitamin A is probably more of a factor than has been generally considered. This is evidenced by Tozer<sup>36</sup> where he found that deprivation of vitamin A had a definite effect on bone tissues—similar to those in the absence of vitamin C. In this connection, it is of interest to note that when we gave guinea-

pigs an extra large supply of fat-soluble vitamins they apparently made better gains than on the normal diet without the supplementary treatment. The pigs on treatment were also more active, aggressive and vivacious. The curves are given below:

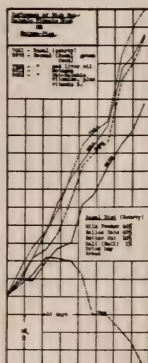


Chart 3. A comparison of the average rate of gain of four groups of guinea-pigs, fed a high and moderate amount of fat-soluble vitamins.

The requirements of vitamin C vary with different species of animals. The results of experiments with rats show pretty clearly at present that they do not require this vitamin. In the case of white leghorn baby chicks, our data<sup>37</sup> indicate that this vitamin is not needed, or if it is, to only a very slight degree. This fact seems

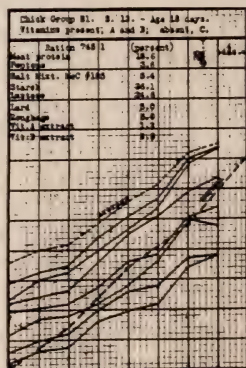


Chart 4. In the absence of vitamin C, baby chicks fed on a synthetic ration grow at the normal rate shown by comparing the average and normal curves. Since baby chicks will not survive for this length of time in the absence of either vitamin A or B, this observation is suggestive that the requirements for C are low or else the animal synthesizes it.

to hold good until the chicks are 16 weeks old. Beyond this time we have no data on the point.

*Summary:* With a deficiency of vitamin C, various stages of sub-acute and acute scurvy may result. A diminished supply of this vitamin lowers the resistance and increases susceptibility to infection. Calcium metabolism is altered and in turn the structure of the teeth and other bones is changed. All species of animals do not require this type of vitamin.

#### FAT-SOLUBLE VITAMINS

Until very recent date, we have considered all the studies on fat-soluble vitamins as relating to vitamin A. For some time, the general notion has been that eventually some of the properties ascribed to vitamin A would be found to belong to a separate and distinct factor. McCollum and associates<sup>38</sup> now are of the opinion from some of their experiments that the antirachitic factor is not the same as the antiophthalmic or fat-soluble A vitamin.

In both cases the rat is the animal that is employed most frequently in the experimental work, although the dog and rabbit have been used to some extent.

*Digestion:* In considering these two vitamins the animals fed a deficient diet, lacking the vitamins, eat their food for a longer time than do those on diets deficient in vitamins B or C. After a time they lose their appetite and stop growing, decrease in weight, and manifest certain characteristic symptoms. The disturbances brought about, however, do not seem to be due primarily to a retardation of the digestive secretions, although histological examination shows slight changes in the alimentary tract, but they are due probably to other and more distinct causes.

*Glandular alterations:* The adrenal glands are often hypertrophied. The liver shows none of the fatty infiltration that is found in rats on a lack of vitamin B; there is only slight atrophy of the spleen or thymus; and very rarely an atrophy of the testes. In chickens, we frequently find the kidney and surrounding tissues contain an appreciable quantity of urates, while in rats this never occurs. As we shall see the lacrymal glands are altered by this deficiency.

*Ophthalmia:* There has been considerable discussion in the literature relative to the etiology of the type xerophthalmia that many workers obtain in rats when fed a diet deficient in fat-

soluble A vitamin. It is very generally admitted at present that there is a definite correlation between the two. In a former paper<sup>39</sup> we described the syndrome as follows:

In due course of time, about eight to twelve weeks, the rat begins to show the following signs of deficiency: the rate of growth becomes slower and may even cease entirely, and then be followed by a loss in weight; the coat of hair may become moist, rough, and wiry, and the skin may show signs of xerosis; at times diarrhea occurs, and if the animal is allowed to continue on this diet the eyes become sensitive to light, and weak, as shown by the tendency to squint and by an excess of tears; later there is an edema around the eyes and the lacrymal glands function poorly. The conjunctiva then becomes involved and gradually appears dull. As time goes on, what seems to be a secondary infection generally sets in and serious results to the sight may occur. This is manifested by pus formation, a protruding of the eye, and involvement of the retina, and even rupture of the eyeball, unless a change is incorporated earlier in the diet.

Yudkin and Lambert<sup>40</sup> have made a recent report on their histological findings with experimental rats. They state that contrary to the general notion the cornea is not the first to be involved but rather the epithelial lining of the lids. In the later stages the cornea is affected. The lacrymal glands were not changed in the early stages but distinctly so as the condition increased. Then it is, that these glands may be the cause of "marked pathological changes, either degenerative or inflammatory in nature."

The lack of vitamin A is generally recognized by those who are carrying on the most intensive work, as lowering in an appreciable way the resistance of the animal so that it is more easily a prey to respiratory infection. The eye condition, if we consider it an infection, would then be a secondary result of faulty diet. We know that such rats are very prone to respiratory diseases whereas those on a lack of vitamin B have a greater resistance and by far fewer cases of such ailments. The reason that rats on a vitamin B-free diet do not have the eye disease can be partially explained on the ground that the lacrymal glands are not involved and hence the secretions flow normally and act as a disinfectant to that region. Further reference will be made to this phase of the subject in the next section.

*Blood and lymph:* McCarrison states that the leucocyte count was low when the fat-soluble vitamin was deficient. Happ reports that diets low in fat-soluble vitamins have no influence on the



red blood cell count nor on the occurrence of anemia, but if the diet is low in both the fat-soluble vitamins and calcium, and high in phosphorus, anemia may result.

Cramer and associates<sup>28</sup> present a most interesting paper on this subject. Their results confirmed those of Happ, that a decrease in fat-soluble A does not lower the red blood cell count. However, they found in a few cases that anemia resulted but these were instances where the animals had severe and advanced xerophthalmia, and complications.

They observed in rats that were on a deficient diet lacking vitamin A, a progressive diminution of the platelets and "thrombopenia." The blood coagulated with difficulty and was clearly different from that of normal rats. The average count for the normal rats was approximately 800,000 per cubic millimeter, while that of pathological rats ranged from 154,000 to 400,000 depending on the severity of the lesion. Response to treatment with cod liver oil was so definite that in the course of 2 to 4 weeks the count was up to normal.

The authors state further that the platelet count is a specific index of the effect of the faulty diet. It occurs before the eye condition sets in. In fact, there may be a deficiency without the ophthalmic evidences, for xerophthalmia will not become evident until the count falls below 300,000. On this basis, they classify xerophthalmia along with other infectious conditions. If this is true, our former contention<sup>38</sup> that xerophthalmia could not be transmitted by contact from the pathological eyes to the eyes of normal rats, or to rats on low plane of nutrition from a lack of vitamin B, is explained on the ground that the resistance was high, judged by the blood platelet count which would be normal in this case.

*Rickets and dental caries:* Studies on the etiology of rickets has occupied the attention of Mallenby<sup>41</sup>, Hess<sup>42</sup>, and McCollum and Shipley and associates, for the past two to three years. In brief, these classical researches show that rickets is due to a combination of factors in which the fat-soluble antirachitic vitamin, calcium and phosphorus, light, and sanitation each plays a part. A low amount of or a disproportioning of calcium, phosphorus and the fat-soluble vitamin in certain directions will cause rickets. Treatment for rickets with a very potent fat-soluble

antirachitic vitamin preparation such as cod liver oil will bring about rapid recovery.

Emmett and Peacock<sup>37</sup>, and Hart, Halplin and Steenboch<sup>43</sup> present data which show that leg weakness in chickens is due, under definite conditions, to the low amount of fat-soluble vitamins. In our work, this does not become evident in baby chicks fed on a deficient diet for they die from a lack of these fat-soluble vitamins before rickets sets in. They manifest however an edematous condition about the jaw and have difficulty in breathing—similar to air-hunger. In older chickens, 7 to 9 weeks old, rickets becomes evident in many cases. The chickens also show definite signs of an ophthalmic condition which is similar to roup in many ways. Treatment of the fowl with cod liver oil or a specially rich fat-soluble vitamin preparation will bring about a cure in both the leg weakness and xerophthalmic condition, provided the animals have not advanced too far.

In like manner, it has been shown that a low amount of fat-soluble vitamins will retard the proper formation of the teeth, and bring about conditions that favor dental caries. In our basal fat-soluble vitamin-free diet, we have had rats develop pathological conditions so that instead of having transparent teeth they become opaque and crumble away. Treatment with an active extract gradually brings them back to normal again. McCollum, Simonds and associates<sup>44</sup> have published work bearing on this subject and show that the proper tooth development and formation can be altered by the disproportioning of the fat-soluble vitamins, calcium and protein. They state:

It is our belief, however, that severe oral disease may result from diets which are only relatively defective, where the disturbance appears to be out of all proportion to the cause.

In these border-line phases, the dietary defect or deficiency is minute and can only be determined by careful scrutiny of the diet and patient, or of the animals over a considerable period.

It is not possible at this time to name any one deficiency which specifically causes dental or oral disease; it would appear that any slight variation in the American diet, which always so dangerously approaches the level of dietary deficiency, might become active at any period of lowered resistance or of physical or nervous stress.

*Fertility and Sterility:* From various feeding tests, especially those of Osborne and Mendel<sup>45</sup>, and McCollum, it has been shown that diets low

in fat-soluble vitamins influence the condition of the male and female so that they may not be able to reproduce. Similar observations have been noted by others since then. Reynolds and Macomber<sup>46</sup> made a special study of the relation of faulty diet to sterility. They concluded that diets low in amounts of fat-soluble vitamins, or calcium, or protein produced a definite decrease in the fertility of individual rats. The calcium deficiency was a most important factor and since the fat-soluble and the antiscorbutic vitamins affect the calcium metabolism, these factors should be in abundance in the diet.

**Pregnancy and Lactation:** It is of practical import to also consider in connection with reproduction the relation of the vitamins to pregnancy and lactation. Funk suggested that the vitamin content of the milk might be influenced by the ration or food consumed. McCollum, and associates<sup>47</sup>, and later Hartwell<sup>48</sup> showed that the ration had a definite influence on the offspring, and it was noted that unless the animal consumed the vitamins in its food, the fetus would not be properly nourished; that is, the vitamins A and B were not synthesized in the body but must be obtained from without. This statement also applies to most species of animals but in the case of the vitamin C, the rat and young chick seem to be able to synthesize it.

It is also known that the mammary glands obtain the vitamins from the blood stream and in turn pass them on to the milk. Hence, in case one of the vitamins is lacking in the blood, the milk will be deficient in the corresponding factor. Therefore, the importance of having an abundant supply of vitamins during pregnancy and lactation is evidenced—not only for the mother but for the offspring as well.

This then brings us to the question of the vitamin content of the food consumed. Hughes and associates<sup>49</sup> report that hens fed a feed low in vitamin produced eggs that were low in vitamin, and that there was a smaller percentage of vigorous chicks from these eggs than from those that came from the high vitamin fed lots. It was also reported from the same laboratory that the amount of vitamin in butter was influenced in direct proportion by the vitamin content of the ration fed the cows. Kennedy and Dutcher<sup>15</sup> observed, from extensive experiments on dairy cows, that the amount of both vitamins A and B in the milk was dependent upon the vitamin

content of the feed consumed. This is further evidence that one should use more than ordinary care to see that the pregnant and nursing mother obtains an ample supply of vitamins. Cramer also adds proof to this fact by showing that the offspring from rats fed a diet which was near the border-line in its vitamin requirements was more easily susceptible to infection than the offspring from rats fed a rich vitamin ration, that is, the resistance of the former was much lower than that of the latter.

#### RELATIVE PATHOGENOSIS DUE TO LOW AMOUNTS OF VITAMINS\*

(Produced experimentally on rats, pigeons, guinea-pigs, dogs and monkeys.)

	Fat Soluble Vitamins	Water Soluble B Vitamin	Water Soluble C Vitamin
Decrease in appetite.....	xx	xxx	xx
Cessation of growth.....	x	xxx	xx
Loss in weight.....	xx	xxx	xxx
Sluggishness and drowsiness	xxx	x	xx
Asthenia-lack of tonus.....	xx	xx	xxx
Digestive disorders:			
Stomach-congestion and inflammation .....	xx	xxx	xxx
Intestines .....	x	xxx	xx
Gastric and pancreatic secretion retardation ...	?	xx	x
Heart:			
Atrophy .....	x	xx	?
Hydropicardium (edema) .....	None	xx	x
Blood-leucocyte count .....	No change	Lowered	?
Platelets .....	Lowered	No change	?
Red blood cells.....	No change	No change	?
Endocrine glands:			
Adrenals-hypertrophied ..	x	xxx	xx
Adrenalin content .....	No change	Increased	Decreased
Thyroid-atrophy .....	None	Slight	None
Thymus-atrophy .....	x	xxx	x
Pancreas-atrophy .....	?	xx	?
Testes-atrophy .....	xx	xxx	xx
Ovaries-atrophy .....	x	x	?
Liver-fatty infiltration and congestion .....	None	xxx	xx
Spleen-atrophy .....	x	?	?
Eye-weakness, xerosis, xerophthalmia, etc. ....	xx	None	None
Leg and rib bones—decalcification .....	xxx	None	x
Teeth .....	Caries	None	x†
Nerve centers—alteration...	x	xxx	?

\*Compiled essentially from the work of McCarrison, Emmett and Allen, Karr, Cramer, Findlay, Howe, and Le Mar.  
†Looseness, degeneration of pulp.

#### SUMMARY-CONCLUSION

Further interesting citations could be made with respect to the influence that a diminished supply of the vitamins has on the physiologic economy, but what we have mentioned should suffice to bring out the underlying thought—the fundamental fact—that without these inanimate organic chemical bodies, which we designate vitamins, animal life would not exist. From what has been stated relative to the physiologic influence of the withdrawal and the supply of the four vitamins, the water-soluble B and C, and the two fat-soluble vitamins, it is apparent that

each plays a definite and an essential rôle in metabolism. The evidence gleaned shows that these vitamins are of fundamental importance not only in infancy but through childhood and on through adult life.

These vitamins are of equal importance in nutrition with the mineral salts, proteins, fats and carbohydrates; and only the optimum benefit can be derived by the proper adjustment of all these groups.

The facts presented here throw light upon the close relationship of the vitamins to certain clinical symptoms and pathological conditions. In the partial absence of these factors, there may result varying degrees of illness depending upon which vitamin is near the minimal requirement of the individual, and also upon how much in excess of the actual needs the remaining vitamins may be. That is, an excess of one vitamin may serve to protect, to a certain degree, the deficiency that may exist in the others. Again, on the one hand, we may have no outward manifestations of being on a narrow vitamin plane other than those shown by the examination of blood or lymph of a lowered resistance; while, on the other hand, we may have such conditions as anorexia, poor assimilation, lowered muscular and neuro-muscular tonus, a decrease in the lymphoid tissue, the leucocytes and the blood platelets, faulty calcium metabolism affecting the teeth and bones with the result of dental caries or rickets or osteomalacia, and increased susceptibility to infection.

On the above premise, the physician of today is justified in concluding that an abundant vitamin requirement is a very important factor to bear in mind in studying the etiology, diagnosis and treatment of diseased conditions, and also in fostering preventive medicine. Careful consideration of these facts in a rational, conservative and judicial manner will eventually prove to be of great assistance in pushing forward the scientific researches now under way in this branch of nutrition. Such cooperation by medical men of mature judgment will doubtless bring to light much fundamental and practical information that will be of value to both the sciences of nutrition and clinical medicine, and eventually aid in the uplift of humanity.

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#### MEDICAL CULTS FROM THE STAND- POINT OF PUBLICITY\*

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The attitude of the public toward the medical profession is distinctly less friendly than it was a generation ago.

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Collectively, the trusted keepers of the secrets of suffering humanity are measurably losing that high place in the affection and esteem of the public which is theirs by right of inheritance and theirs by right of compensation for their devotion to the welfare of their fellow men.

The dignified silence of the medical profession in the face of the blatant, dishonest claims of sectarian medicine is being misconstrued by an uninformed public.

The physician's proverbial avoidance of publicity has been capitalized by the medical cults to their own advancement.

Whence have we the triumphs of sanitary science? What? and who? stand guard at the gateways of the world, holding in check scourge and pestilence? What? and who? make safe for mankind every drink of water, every morsel of food, every baby's bottle of milk, every sanitary appointment of the modern human habitation? The average man knows the answer, but he seldom puts his answer into words.

Ask the average man "who built the Panama canal?" His answer will be incorrect. The average man does not know that the Panama canal is a gift, a pure and simple gift from the medical profession to the ships of the nations. Malaria and yellow fever ruled the Isthmus and defiantly said to the valiant men of France, "You shall not pass." The men of medicine hunted down the secret of the mosquito, and then, and not till then did the dream of the long, weary, disastrous years come true.

What would happen to the human race with the present day world-wide intermingling of peoples and races, if the protecting hand of scientific medicine were withdrawn?

Think of a city like Cleveland with a health department whose sole armamentarium consisted of a copy of "Science and Health with Key to the Scriptures." Picture the fate of the residents of such a city with a typhoid epidemic at the source of its milk supply, and with a Commissioner of Health who did not believe in any germ theory of disease, and who taught the public that bacteriology was all a mistake. Such a city would be ideal from the standpoint of the two largest and most conspicuous groups of medical cults.

The practice of medicine is based upon the accumulated knowledge of the past. The wisdom

of all men and the science of all time have been drawn upon to make up present day medicine.

The practice of sectarian medicine is founded upon some fantastic theory of disease devised and invented by a single individual, and its practice consists solely of one and the same treatment for every complaint.

The regulation of the practice of medicine is the right of the states by virtue of their "police power." Through such legislation as the "Harrison Narcotic Act," and the "Sheppard-Towner law," the federal government has encroached somewhat upon this police power, but for the most part, the states exercise a free hand in shaping medical laws.

Through the successful efforts of the medical cults, there exists today an unparalleled amount of legalized imposition upon the public. Uneducated, uninformed and wholly unqualified persons are receiving licenses to treat the sick.

Whatever a license to treat the sick and suffering may be as an abstract proposition of law, such a license is looked upon by the public as a stamp of approval upon the methods of treatment named in the license. Such a license is a potential cloak for fleecing unwary victims.

A license to treat the sick is a license to make the diagnosis of their ailments. A strangulated, irreducible hernia may thus be called a "spinal subluxation" or an "error of mortal mind," and thereupon treated according to the method of either one of the two sects indicated, and with the same fatal termination, yet the treatment has the stamp of legal approval. In what way does a license to treat a diseased condition by only useless methods differ from a license to withhold the only necessary treatment? And in what important particular do both such methods differ from taking the life of the patient by direct means? As well ask the question, "which is preferable, to be killed by a highwayman or a fool?" No medical practice act should give indirect approval to manslaughter.

A half century's attempts to solve the problem of the statutory regulation of the treatment of human ailments can be summarized in one word, failure. The standards of regular medicine are far above the requirements of the medical practice acts, while the medical parasites ply their trade under regulations unreasonably low, or escape the law altogether through an artfully

devised and politically perpetrated "exemption."

No one who speaks with the understanding of experience, holds the medical profession responsible for the existence and flourishing condition of sectarian medicine which prevails today. The statement that sectarian medicine thrives upon persecution is not warranted by the facts.

Where and when has the medical profession ever exerted any appreciable amount of political influence, or shown any degree of political sagacity? Since when has the medical profession ceased to be the laughing stock of politicians?

Does the criminal code please and encourage the offenders against society? Does the pick-pocket wish to be prosecuted in order that his business may prosper? In the absence of any law with a penalty for its violation, how many pounds of coal would one receive as a ton? Every cheat is opposed to the law, and every fraud against being interfered with. A vote in favor of doing away with the courts can be had any day, if only the jailbirds be allowed to do the voting. Is it not about time that the advocates of a let-alone policy with its unbroken record of fifty years of failure, retired from attempting to direct the activities of the medical profession in the matter of dealing with quackery?

In the last 50 years, about 250 medical practice acts have been enacted. During this same 50 years about 800 supreme court decisions have been handed down in matters pertaining to the practice of medicine.

One of the facts conclusively demonstrated, is that it is folly to attempt to apply more than a single standard to persons doing the same thing under the same circumstances.

The medical profession has always stood for high educational qualifications as a prerequisite to medical licensure. It has stood by, a helpless witness to the wholesale licensing of a never-ending crop of parasites who are granted substantially the same privileges as physicians on a showing of educational qualifications ranking from *meager* down to absolute *zero*.

The closing of the back door to the practice of medicine by supreme court decision, is not improbable in the not distant future. The seekers of special privilege are overreaching themselves.

It does not require an intelligence higher than that of the average of the general public to

understand that there is no such thing as a congenital physician; that some learning must be added to the knowledge that one is born with before one can be adjudged competent to deal with matters involving human life. A little schooling is recognized as necessary before one can read even the senseless jargon of Mrs. Eddy's "Science and Health." From the standpoint of the general good, there is not one single, solitary excuse for the recognition of a medical cult. There is every excuse and reason for adhering to the principle that all persons who seek license to treat the sick for a fee, shall conform to the same reasonable standards of education. A knowledge of the human body in health and in disease is indispensable to any form of treatment.

Only the cults and their paid advocates dispute the logic of a single scholastic plane of approach to the treatment of the sick for a fee. Why speak of the fee? For the simple reason that the whole family of medical parasites has no other excuse for being.

In addition to the regularly licensed physicians who have complied with the requirements of the medical practice acts, there are engaged in the occupation of treating human ailments, a motley array of parasites who, by virtue of some more or less plausible subterfuge, enjoy the privileges and immunities of regular physicians without having all, or perhaps any of the educational qualifications, required of regular physicians.

Some of the cults set up the specious claim that they are not practicing medicine since they do not profess to administer drugs. Others assume the demeanor of pious followers of the lowly Nazarene with one slight addition and improvement, namely, charging a good fat fee as compensation for the wear and tear on the "tenets of religion," and as a further emolument which they, as the holders of a copyrighted approach to Divine favor, are entitled to enjoy.

Among the 800 supreme court decisions previously referred to, there crops out, here and there, evidence that not all supreme courts are agreed as to what constitutes the practice of medicine. A small minority lean to the absurd view that the practice of the chiropractor or of the Christian Scientist is not the practice of medicine, as these sects do not profess to administer drugs. Such illogical opinions fortunately are few and far between.

While a definition of the practice of medicine to which some objection cannot be raised, is difficult to formulate, nevertheless, it is highly important that a clear cut statement of what constitutes the practice of medicine be a part of every medical practice act. If such a definition is in the law, the courts are bound to follow it.

It is possible to define the practice of medicine so that even a lawyer can understand it. A subsection from the medical practice act of the state of Maryland is worth quoting in this connection: "Practice of medicine defined: Any person shall be regarded as practicing medicine within the meaning of this sub-title who shall append to his or her name the words or letters 'Dr.', 'Doctor', 'M. D.', or any other title in connection with his or her name, with the intent thereby to imply that he or she is engaged in the art or science of healing, or in the practice of medicine in any of its branches, or who shall diagnosticate or attempt to diagnosticate, operate upon, profess to heal, prescribe for, or otherwise treat any physical or mental ailment, or supposed ailment of another, or who shall for hire or for any gratuity or compensation, either directly or indirectly, to him or her paid, undertake by any appliance, operation, or treatment of whatever nature to cure, heal, or treat any bodily or mental ailment or supposed ailment of another; or who for any hire, gratuity or compensation, either directly or indirectly to him or her paid, by or for any patient, shall undertake to treat, heal, cure, drive away, or remove any physical or mental ailment, or supposed ailment of another, by mental or other process, exercised or invoked on the part of either the healer or the patient or both."

The medical profession should not stand idly by while the medical underworld delivers attack after attack against medical practice acts for the alleged reason that sectarian medicine is discriminated against; rather should scientific medicine protect the public against these underground sappers by testing out the constitutionality of any and every law that discriminates in favor of any cult, sect, or other class.

An attack from above downward might be a novelty, but any lawyer will say that every law is void if it does not impose the same conditions, restrictions, and prerequisites upon all persons engaged in the same business under the same circumstances.

If sectarian medicine is not engaged in the business of practicing medicine, why is it injecting itself into the medical practice acts? If Christian Science is a religion and not a business, why do its adherents and advocates maintain such expensive lobbies in the state capitals of all the states of the union, fighting doggedly and persistently for recognition in the laws governing the practice of medicine? The answer is very plain and very obvious.

Any law that contains within itself full and explicit directions for its own safe violation should be radically amended or wholly done away with.

The courts can not decide scientific questions nor evaluate the different forms of treatment. The courts can and do uphold the laws which establish reasonable educational qualifications for persons who desire to enter the occupation of treating the sick. It is only when the educational prerequisites bear unequally that the courts step in to protect the rights of such persons as are discriminated against. Is it not about time that regular medicine brought it to the attention of the public and the courts that divers persons, sects, and cults are being licensed to treat the sick, and that said persons are so licensed without being required to possess the same educational prerequisites as are required of others engaged in the same business under substantially the same circumstances?

The solution of the problem of the medical parasite is *compulsory education of the parasite*.

A law that compels all persons that may be licensed to treat the sick to obtain this privilege upon the same just and reasonable scholastic plane, will meet the approval of the public and withstand the test of the courts. There is no other solution to this perplexing problem. The law-making bodies must be looked to for just medical laws, and the state legislatures must be made responsive to the insistent demands of an informed and enlightened public.

The information and enlightenment which the public is in great need of, is a complete understanding of the practices, merits and activities of sectarian medicine.

The public is likewise very much in need of enlightenment as to the accomplishments of scientific medicine.

Up to the present time the public has only had the statements of the advocates of the various



cults, and many of these statements are being presented to the public in the form of glaring, dishonest newspaper advertisements more extravagant than the proverbial circus poster.

The most urgent need of the hour is a thorough, searching, unbiased survey of the claims, merits and accomplishments of sectarian medicine. Such an investigation was recommended by the House of Delegates at St. Louis. Scientific medicine will welcome and should assist in giving the widest publicity to the report of the findings of such a committee of investigation. If anything of value in the treatment of disease can be learned from the chiropractor, or from any other sect, let scientific medicine make the most of it, and teach its use to the oncoming generation of physicians. Above all let the public know the results of this proposed survey. Such an investigation and campaign of publicity should be welcomed by every honest advocate of sectarian medicine.

Let the public know what the regular medical profession is doing for suffering humanity. The medical press reaches relatively few laymen. The general public looks to the lay periodicals for its information as to what is going on in the world, and if the medical profession wishes the public to know what it is accomplishing, a judicious use of printers' ink must be inaugurated and followed up. Some of the state medical societies are undertaking such a plan of publicity. The results can hardly be anything but wholesome. Take off the lid from the ways of quackery. Bring out from under its bushel the light of *scientific medicine*.

#### SOME RECENT ADVANCES IN CHEMISTRY AS AIDS TO THE CLINICIAN\*

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Advances in chemistry have been so numerous during the decade just passed, that it would be quite impossible in the time allotted to do more than catalog them. Rather than do that, I have selected three general fields of work in which notable progress has been made: the factors con-

cerned in the acid-base equilibrium of the body, and the study of metabolic rate.

Of these subjects none is of more fundamental importance, in health and disease, than the acid-base equilibrium of the body, the factors which maintain it, the disturbances which are associated with any changes in it, and the recognition of it.

Life is always producing acids.  $\text{CO}_2$  results from the oxidation of C;  $\text{H}_2\text{SO}_4$  and  $\text{H}_3\text{PO}_4$  from the oxidation of S and P in the proteins and lipoids; while in this combustion intermediate organic acids appear. Few organisms however can survive an acid reaction within their cells, and in the higher animals there is no more certain method of destruction than the development of an acid reaction within a cell.

To digress for a moment in emphasis of this point, the war gases illustrate on a great scale the deadly effects of producing local tissue acidosis in some essential structure. Phosgene and chlorpicrin for example penetrate and hydrolyze in the cells of the alveoli, producing  $\text{HCl}$ . These cells liquify, disintegrate, die, and the animal as a whole succumbs because of this destruction of alveolar cells. "Mustard gas" penetrates the skin and enters the active epithelial cells of the dermal layer concentrating in the lipoids in which it is most soluble. There it is slowly hydrolyzed to  $\text{HCl}$ , the cells in time grow acid and as a result die, liquify, autolyze, and slough off. These gases are among the most toxic substances ever described—but they are toxic simply because they produce acidity within the cell. It must be clear then, that the living cell, if it continues to live, must secure protection not only against such foreign acids but against the acids which it produces itself.

In all probability life started in the tidal waters of a warmer, less salty ocean than we have today. This ocean water was slightly alkaline from the leaching of the disintegrating rocks and was richer in calcium and carbonates than it is today. In such a faintly alkaline medium the acid-base equilibrium of the tiny masses of protoplasmic jelly could easily be maintained by direct diffusion. The small size of the early forms of life, the relatively great surface which they exposed and the enormous volume of ocean water about them was all that was necessary to prevent accumulation of acids within the cell.

With increasing association of cells into com-

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plex colonies, the sufficiency of the surrounding sea water in preventing cell acidosis in time reached its limits. Systems of circulation developed in some colonies which enabled them to survive and to develop new complexities. Finally so efficient a type of circulatory system developed that life was able to quit its ocean birthplace and adventure out upon dry land and even into the air. Aside from its increased efficiency as an oxygen carrier and in the transport of supplies, the human circulatory system is essentially like that of the primitive ocean water but with added factors which enormously increase its efficiency as an acid preventer. During normal life it easily suffices to keep the cells neutral. Even under the forced draught of violent and prolonged exertion and profound fatigue, of fevers, anaesthesia, and starvation, it is able to take care of the excessive amount of acids produced without itself growing acid. This is essential however, for should the blood become even slightly acid, the equilibrium is lost and death is inevitable.

The cause of death in tissue acidosis appears to be due to the fact that the proteins which make up the internal gel structure of every cell, become acid-proteins, imbibe water, swell, liquify, and digest. The structure of the cell is lost in this general breakdown to liquid; with loss of definite structure goes loss of order and direction of reactions and so loss of function and death. This general process we call autolysis and it may be set in motion at any time by an excess of even so weak an acid as carbonic.

Let us consider in more detail the factors which are involved in maintaining the acid-base balance of the body. The blood consists of a mixture of  $\text{BHCO}_3$ ,  $\text{CO}_2$ ,  $\text{NaCl}$ , acid and basic phosphates of Na and K, oxyhaemoglobin, free O, plasma proteins, urea, and ammonium salts. All these substances together constitute the buffer factors of the blood. By a buffer in this connection we mean a substance into which acid may be poured without making the solution appreciably more acid in reaction.

The true acidity of a solution is its H ion concentration. This is susceptible of every exact measurement by the potentiometer—an electrical device which has been perfected during the last few years. Water is our standard of neutrality. It has a H ion concentration expressed by the figure 7.0. Any figure larger than 7 de-

notes an alkaline reaction; any figure smaller, an acid reaction—that is a solution dissociating more H ions than are found in pure water. The blood has a H ion concentration of about 7.4 on this basis and is therefore slightly alkaline. Its normal variation is within the range 7.3 to 7.5. If it ever reaches the level of acidity of pure water—that is a H ion concentration of 7.0—coma is the expected result. Such a high acidity as this may however be tolerated for a time. On the other hand if alkalinity increases to the figure 7.8 tetany is likely to result. Any wider divergence on this scale will mean quick disaster to the organism.

We may form some estimate of how narrow this range actually is perhaps by the following figures. If we take a liter of pure water and add 1 drop of 4% NaOH we get the reaction of normal blood—7.3. If we add  $1\frac{1}{2}$  drops we get 7.5; with 2 drops we reach 7.8 the alkaline danger line, and if we add a drop more, we have a medium so alkaline that were it blood it would be fatal. On the other hand, while the organism can just tolerate the acidity of distilled water, adding to a liter a drop of 3.6% HCl gives us an acidity of 6.8; 2 drops give an acidity of 6.5 on our scale, in which a tissue cell will quickly go to pieces and which would kill were it the reaction of blood. But suppose we have present some buffer such as a phosphate mixture adjusted to the reaction of 7.4. It would be easy to make up such a mixture into which one might pour 100 times as much HCl of the strength used above, before the acidity would rise to that of distilled water 7.0 on our H ion scale. Into this same mixture we could pour a hundred times the fatal 2 drops of alkali before the alkalinity would reach the danger point of 7.8. The blood has such an effective buffer value that we may pour many cc. of 3.6% HCl into a liter of it before its acidity rises to that of distilled water.

Into the blood we pour each day something like 900 liters of  $\text{CO}_2$ , together with 20 to 100 cc. of normal acids like  $\text{H}_2\text{SO}_4$  and  $\text{H}_3\text{PO}_4$ . No buffer system however perfect could long prevent acidity under such conditions, were there no way of getting rid of the acids. The eliminative system, lungs, kidneys, and skin must therefore be intact and functioning or the blood and cells of the organism will very soon grow acid and perish in spite of its buffer system. The buffers

of the blood constitute the first line of defense; the lungs and kidneys, and skin and intestinal tract the second supporting line, and the tissues themselves the final reserves.

Because our buffer solution will take up acid or alkali in considerable amount without itself becoming noticeably more acid or alkaline, it must not be assumed that it has not been profoundly altered. So long as the amount of acid or alkali poured into it does not exceed some definite figure it maintains its normal reaction of 7.3 to 7.5. But the shift in the buffer factors incident to taking care of acid may cause quite profound changes. Some of these we know fairly well today, as a result of recent work in this field.

Blood in the capillaries of an active tissue is receiving  $\text{CO}_2$ . The ratio of  $\text{CO}_2$  to  $\text{BHCO}_3$  is on the increase, which means a reaction tending to grow acid. But the  $\text{NaCl}$  present dissociates, its  $\text{Na}$  ions form more  $\text{NaHCO}_3$ , while the  $\text{Cl}$  ion, or  $\text{HCl}$ , diffuses into the red cells and combines there with haemoglobin as a haemoglobin hydrochloride. Now haemoglobin in acid combination can bind less  $\text{O}$  than in alkali combination. It therefore dissociates some of its oxygen as the  $\text{HCl}$  enters the corpuscle, liberating it easily therefore in just the region where it is most required, where combustion is proceeding rapidly, oxygen being used up, and  $\text{CO}_2$  produced. At the same time the ratio of acid phosphates to basic phosphates shifts in the acid direction (but without turning acid) and  $\text{Na}$  and  $\text{K}$  ions are made available for the production of more  $\text{BHCO}_3$ . Furthermore the plasma proteins, which exist in the blood as metal proteins, give up some of their  $\text{Na}$  ions to the  $\text{CO}_2$  and still more  $\text{NaHCO}_3$  results. Thus in the capillaries we find a mobilization of metallic ions, chiefly  $\text{Na}$  and  $\text{K}$ , in proportion to the  $\text{CO}_2$  diffusing in, which keeps the ratio of  $\text{CO}_2$  to  $\text{BHCO}_3$  a constant one; while at the same time oxygen is freely dissociated from the oxyhaemoglobin of the corpuscles, and diffuses into the tissues. This blood is now venous. It passes to the lungs where in close proximity to the outside air and its low  $\text{CO}_2$  tension, the excess  $\text{CO}_2$  blows off. As it blows off,  $\text{Na}$  ions are set free again and the reaction of the blood tends toward alkalinity. But the excess  $\text{Na}$  ions recombine with plasma proteins, and with the acid phosphates, while the easily dissociable  $\text{Cl}$  leaves the red cor-

puscle to reform  $\text{NaCl}$ . At this point then we have haemoglobin particularly available for combination with oxygen, in contact with an atmosphere rich in  $\text{O}$ , and oxyhaemoglobin is again produced. The blood is now arterial and the cycle begins again.

While this cycle is in process, acid phosphate is being excreted through the kidney together with acid sulfates, from the burning of  $\text{S}$  contained in the protein, and the acid salts of other unburned organic acids if any exist in the blood. The kidney thus excretes more acid than alkaline components, conserving to the body its necessary bases.

There is furthermore a reservoir of basic ions in the tissues themselves, and these diffuse out into blood and lymph the instant the relative proportions of materials in these fluids differ from the cells.

Still another active agent in blocking an acidotic change is ammonia. Ammonia is normally produced in the tissues incident to the combustion of the amino-acids coming in from the intestinal digestion of food proteins. The first step in this combustion is deamination—the knocking off of the amino group as  $\text{NH}_3$ . The ammonia at once unites with  $\text{CO}_2$  to form ammonium carbonate or carbamate and particularly in the liver this is changed to the neutral, harmless compound urea. Not all the  $\text{NH}_3$  however is converted to urea. A certain fraction of it is regularly diverted to partially neutralize the stronger acids normally produced in life,  $\text{H}_2\text{SO}_4$ ,  $\text{H}_3\text{PO}_4$ , and the abnormal organic acids which may appear—Beta oxybutyric and diacetic acids, etc. About 90% of the  $\text{N}$  excreted in the urine is urea nitrogen; about 3% as ammonium salts. If however there is any uncompensated shift in the buffer factors toward an acidotic condition, more of the ammonia is diverted to neutralize or offset the shift and is excreted as ammonium-acid-salts, while urea correspondingly diminishes. Incident to an acidotic change in the buffer system ammonia  $\text{N}$  may rise to 11% while urea drops to 60%. In the severe acidoses of diabetes the ratio may be much higher than this.

In the tissues themselves we probably have quite as complicated an acid-base mechanism as in the blood, but we know less about it. We do know however that where the acidotic tendency of a cell, or a tissue, or the body as a whole, is



not completely compensated by the buffer system in circulation and the organs of acid excretion, the tissues mobilize the final reserves to combat this tendency, and in so doing may make enormous material sacrifices. The tissues constitute the last line of defense the body has against acidosis. The proteins in the cell are protein salts of the alkali metals. Any increased production of acid within the cell—even if it is only  $\text{CO}_2$  in excess of what can diffuse out and be fixed in the blood stream—will tend to shift the phosphate mixture in the cell from basic to acid phosphate, and also to rob the cell proteins of their basic elements Na, and K. If the process goes far enough the buffer capacity of the cell reaches its limits, and the reaction tends toward increasing acidity. The free proteins now digest under the action of the autolytic enzymes and amino-acids result as the proteins disappear. These amino-acids in turn furnish  $\text{NH}_3$  to neutralize the acidity. The cells in the meantime are of course growing smaller. In a generalized acidotic condition, as in starvation, fever, severe acute diabetes, anaesthesia, etc., there is an increased  $\text{NH}_3$ -urea ratio, and the  $\text{NH}_3$  as well as the fuel may be all derived from autolyzing tissues.

Thus we have the wastage typical of prolonged conditions of this sort. As is to be expected, it is costly to throw in this last line of defense to maintain the acid-base balance of the body. Some organs like the liver, can lose heavily and not suffer seriously, returning to normal when the emergency is over. The muscles may rather slowly mobilize considerable protein reserve, but with it goes most of the contractile power of the muscle tissue as well. The excessive weakness following a few days of some acute infective process with high fever and loss of weight, is in part at least due to this mobilization of the available contractile protein of the muscles. The brain contributes little without loss of consciousness, which goes on rapidly to irreparable damage, unless the situation improves. Indeed when the acid-base balance is so far upset toward the acid side, as to reach the condition of coma, the factors of safety have just about been exhausted, the eliminative or the buffer system has broken down and dissolution is imminent. Only some strenuous and sudden change in the mechanism can reestablish the normal balance.

From this sketch of our present understanding

of the mechanism which safeguards us from the acids we produce, it must be evident that the important point is to discover early any shifting of the acid-base equilibrium in the direction of acidity.

The severe acidoses are diagnosed easily enough where the acetone bodies appear in the urine to indicate that condition. But we have not yet the simple satisfactory single test which shows the acidotic tendency well in advance of the severe or critical condition. I am confident we shall soon have such a test and that it will open up this field to the clinician and lead to great strides in advance in both diagnosis and therapy. The journals are full of contributions in this field, which shows that chemists and clinicians both are focusing their attention on it, and the problem will be solved. In the meantime there are a number of methods which give some help.

A study of the acid- $\text{NH}_3$ -urea ratios in the urine is probably one of the best guides we have today in detecting an acidotic tendency. Urea and ammonia may both be determined rapidly and accurately. It is not however reliable in all cases.

The method of Van Slyke is to determine the alkali reserve of blood, that is, the bicarbonate content. Blood is drawn from a vein, saturated with  $\text{CO}_2$  of average alveolar concentration and then introduced into the Van Slyke apparatus, where the  $\text{CO}_2$  is liberated and measured. This gives very exact information concerning the amount of  $\text{NaHCO}_3$  in the blood. But this one factor alone is not sufficient to inform us definitely of what the situation is in the buffer system.

Information on this same quantity may also be obtained by securing alveolar air by a simple procedure and bubbling it into a phosphate buffer mixture containing an indicator. The concentration of  $\text{CO}_2$  in the alveolar air will determine the acidity of the mixture through which it is passed, and the indicator is matched against a standard series of color tubes made up of definite H ion values. Here again, while the information may be valuable, it is incomplete and alone difficult of interpretation.

Still another method in use, is to determine the alkali tolerance of an individual. This has much to recommend it. Bicarbonate is fed in 5 gm. doses at intervals of 30 minutes till the

urine becomes neutral. The amount of bicarbonate required to reach this point is indicative of the degree to which the bases of the body have been depleted. While this method appears reliable in establishing the absence of acidosis it is not always considered so when acidosis is present. This is because in acidosis the ability of the kidney to excrete alkali is apparently impaired. The danger of inducing an alkalosis by feeding alkali must always be kept in mind also.

Two methods are in use for determining the H ion concentration of the blood directly. In the method of Rowntree this is determined by an indicator. The method is fairly accurate, and gives information as to whether the acidotic shift has gone so far as to alter the H ion concentration of the blood. This is of course of the greatest importance, but it discloses the advanced rather than the early condition.

The most accurate method is by the use of the Potentiometer. The apparatus however is complicated, delicate in its adjustments, and requires a high degree of skill and training to operate. It can hardly be expected to take its place in many laboratories, and in its present form is hardly available for clinical use except in extraordinarily well equipped and manned institutions for research. So far, the results of the highly accurate figures obtained by this instrument establish more firmly the fact that the H ion concentration of the blood is wonderfully constant, and that an acidotic shift in equilibrium may proceed a long way before any significant change of H ion results.

Another notable advance has been made during this decade in our knowledge of metabolic rate and the light which it may throw on certain metabolic disturbances. Basal metabolism may be defined as the metabolism of the human engine when running idle. It is measured by the O used by the body in a given period of time. The developments in this field for the clinician are the outgrowth and culmination of researches carried on by a host of students of metabolism—Voit, Rubner, Attwater, Benedict, Lusk, and Dubois, are some of the names most associated with this work. It has been a gigantic task. It has gone on for a generation or more, and only recently have the results of the complicated calorimeter-chamber studies of Benedict and others made possible the simple bedside technique which is today becoming so rapidly popular in well

equipped hospitals and clinics. Because of this popularity and the publicity the method is getting in the journals, the fundamentals of the technique deserve a more detailed description. The apparatus—and there are several types in the field—depends on the accurate determination of oxygen consumed by a patient who is lying at ease, making no muscular effort apart from respiration and circulation, whose digestive tract is at rest, and whose skeletal muscles have been inactive for a half an hour or more before the test. Under such conditions of perfect quiet the oxygen consumption shows the pace at which fuel is being consumed in the body. If we know in addition the type of fuel which the machine is burning—for instance carbohydrate, protein, or fat, we may quickly calculate the calories of heat actually developed in the machine from the amount of oxygen consumed. But the fuel mixture we can determine if we also weigh the CO<sub>2</sub> and get the ratio of CO<sub>2</sub> produced to O consumed, the "respiratory quotient." Carbohydrate, protein, and fat each have a definite ratio of CO<sub>2</sub> produced, to O consumed, so that from Benedict's and Atwater's fundamental work we may determine quite exactly the character of the fuel mixture being burned. Knowing the kind of fuel mixture, the amount of oxygen consumed can liberate from it a perfectly definite amount of energy as heat. And so we arrive at a figure which tells us the heat units being produced, minute by minute, in the human engine under observation. But we find that two perfectly normal individuals, under identical conditions, produce very different amounts of heat, for this amount is related to age, to sex, to weight, height, and contour, or to surface area. Gram for gram the mouse metabolizes at an enormously greater rate than the elephant. But if we relate the heat produced to units of surface of the two animals we find that they produce energy at just about the same pace. The mouse has a great deal more surface exposed per gram of weight than has the elephant. And so through the most elaborate correlation of data requiring years to secure, the tables of Dubois or the tables of Benedict were prepared by which we can relate the actual energy produced by an individual to his age, sex, and area. We thus finally arrive at a figure which appears to be a genuine constant in metabolism—and basal metabolism is expressed in calories of heat produced per unit of surface

area—calories per hour per sq. meter. The basal metabolism of any normal individual may be predicted then with surprising precision for either sex and for any age if we know his height and weight. In certain conditions wide variations from the normal metabolism are found—particularly in hyperthyroidism. In the classical case, the clinical picture of abnormally active metabolism is regularly borne out by the markedly increased metabolic rate. Also in some border line conditions where typical symptoms are not so clear, the metabolic rate appears to confirm the suspicion of heightened thyroid secretion. But again it must be born in mind that the basal metabolic rate is not determined wholly by thyroid activity. There are undoubtedly other factors which play a part, perhaps a large number whose nature we can only guess at today, and which may so alter the metabolic rate as to either obscure excessive hyperthyroidism or to simulate it by giving a heightened basal rate. The basal metabolism figures often appear equivocal. They sometimes fail to substantiate what the other symptoms suggest, they sometimes may seem to show a condition for which the thyroid is only partially responsible. The present enthusiasm for making basal metabolisms is going to lead to many mistakes, but it is also going to lead to the collection of quantites of valuable data which in time will be correlated and interpreted, and in time will show us just how widely applicable, and just how reliable this new tool for diagnosis will prove to be.

Like any complicated test for use in the clinic, it creates a demand for less complicated apparatus and technique. The demand for simplification often results in sacrifice of accuracy, and I question whether the results obtained from the measurement of oxygen only—as it is done in the most simple types of apparatus—will stand the test of time. In such cases no respiratory quotient is obtained, an average figure therefore has been chosen which represents the heat produced by the burning of an average mixture of proteins, carbohydrate and fats. Now it makes a considerable difference whether at the time the test is made pure fat is being consumed as fuel, or pure glucose, or what the proportion of the two is. Our own experience leads me to the conclusion that a patient may be burning one mixture now, and half an hour later when a second test is run, he may be burning quite a different

mixture. Such differences give a range from 0.7 to 1.00—that is a possible variation of 30%, when .86 is taken as the average figure, an error of 10 to 15% up or down is possible right there. Add to that the many other errors of the process and it makes the total error in any one set of determinations quite large indeed. DuBois and Benedict allow 10% deviation from the normal expected figure, with the more accurate apparatus. Where O alone is determined the possible error must be much larger. It is probable therefore that the sacrifice of accuracy made in the less complicated procedures may very likely be sufficient to make their use of little value except in detecting extreme conditions. They will probably have little use in the painstaking studies of metabolism that will be carried on in research institutions. On the other hand it may appear that the recognition of extremely high or low metabolic rates is all that the clinic or physician will demand as confirmation of the other clinical evidence. And in that case the apparatus may be made still simpler and more inexpensive.

In concluding this brief resume of some of the recent advances in chemistry, I should like to say a word about the relation of the laboratory to the physician. I feel that in many cases it stands at something either more or less than its real value. Many times it is undervalued. Quite as often it is given an importance which it does not possess. Too often there is danger that the laboratory results will be substituted for clinical diagnostic ability. The laboratory findings cannot take the place of the keen observation, the experience, the almost intuitive recognition of signs, invisible to the layman—which is the equipment of the real diagnostician. To such a one the laboratory is an aid in two ways. First and by far the more important is the understanding which the results of laboratory research give him of the complexities of the human mechanism. Second, by placing at his disposal methods for securing information in addition to that secured by eye, ear, and touch. He uses the laboratory as he uses his stethoscope, or his blood pressure apparatus, or his ophthalmoscope, without attaching any undue importance to the results, nor believing that it can apply in all sorts of cases. If the laboratory results are equivocal—and 9 times out of 10 they are—the



clinician proceeds on the evidence acquired in other ways.

The number of sharp tests like sugar or albumin in urine are few indeed when we consider the number of years chemists have been at work on medical problems. But on the other hand, while only a few specific unequivocal reactions have been forthcoming, useful enough to become part of the everyday routine in the physician's office—think of the tremendous advances in general knowledge of the human machine and its reactions, its composition, its intermediary metabolic processes, that have been built up in that same period.

These advances should be recognized as the real aids which the laboratory side of medicine has made and continues to make to its practice.

#### OUR MEDICAL ECONOMICS PROBLEMS.\*

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Of the innumerable medical economics problems pressing for solution today there are two which to me seem most vital and urgent; one is the need of establishing a single standard for the practice of medicine, the other is to combat the encroachments upon legitimate private medical practice by governmental agencies.

In order that we may make our opinions effective, it is first of all necessary, however, that we iron out the differences within the medical profession itself and then present a united front before the legislative bodies. Let us discuss all of our medico-economic problems frankly and fearlessly within our own circle and then, as reasonable men, I believe we shall be able to agree upon certain fundamentals for which we can all stand and work. My observation leads me to believe that the most potent reason why we do not have more influence with legislative bodies is the petty political aspirations of certain individuals and groups of individuals. Let us cast these aside and work solely for the common good.

In almost every political campaign we find certain groups of physicians sending out letters of endorsement for certain candidates and when we analyze these endorsements carefully we find that in the great majority of cases some one in-

dividual who starts the petition wants some political preferment himself. These little political honors on commissions and boards in the gift of public officials are usually poorly paid and the honor attached to them is of very doubtful value, particularly if secured at the expense of the good of the profession and the public. If there is any endorsing to be done let the official representatives of the profession, the council, after careful consideration of what is to the best interests of the profession and the public, do the endorsing. This striving for honors which one sees so often reminds me of a story which I heard many years ago. A small town Galician business man went to Paris on a visit and while there was entertained by Baron Rothschild. When he came back to his native village he was unduly puffed up, and, when asked by a business man why so cheery, he answered: "I have just been in the beautiful city of Paris. While there I was the guest of the great Baron Rothschild. He entertained me at his wonderful palace, he took me to see the Elysee, and he took me to the magnificent grand opera, and he did me great honor." His countryman, not much impressed, retorted, "I will believe that you have been in the beautiful city of Paris, that you were entertained by the great Baron Rothschild, that he took you to the Elysee and the grand opera, but as to the honor, I would suggest that you try to have that cashed at the bank." These political honors for which medical men so often strive and thus only too often impair the general usefulness of the profession have little or no cash value and even less value in the bank of personal satisfaction. If we would always stand as a man for the best interests of the profession and the public, putting aside little personal jealousies and personal aspirations, we should be more often invited to sit at the main table of the main feast of the political banquet, and not be put off with a whiff of the floral decorations, as we usually are now.

As the security of the farm garden is not so much dependent upon the height of the fence surrounding it as upon whether the bottom is hog proof or not, so the safety of the public from exploitation by imposters who pretend to possess adequate medical education depends more upon the question whether there are loopholes in the medical practice act than upon the educational requirements of the ethical physician. Our ultra-scientific medical educators have paid altogether

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too much attention to the height of the fence and not enough to the condition of the bottom of it. They have put up seven barbed wires when they should have put up a close woven, well fastened mesh at the bottom and three barbed wires at the top. Most of us are of the opinion that theoretical educational requirements for the practice of medicine have already reached the point beyond which it is neither safe nor desirable to go. Some of us are beginning to think that we have already exceeded the limit of safety. Our first effort should be to prevent imposters and quacks from masquerading under the title of physician. There should be only one door of entrance to the medical profession and the state should not license any one to practice the healing art unless he can fairly and honestly enter this door.

Bureaucracy will, if not soon checked, sap the very life blood of this nation. Government control of the medical profession is but one of its manifestations. As medical men who love our profession and as good citizens who love our country, it is our duty to oppose this tendency with all our might.

In the winter of 1904 while in Berlin, one of the finest, most far-sighted men of Germany of that day, expressed to me personally, with great perturbation of mind, the fear that unless something could be done and done immediately to curb the insane German kaiser and his military clique, these would bring upon Germany the greatest calamity in its history. How soon his fear became a fact we all know. Ex-governor Lowden in a public address expressed the opinion that our greatest danger in this country today is bureaucracy. Let us heed his note of warning before calamity overtakes us also.

Let us review for a moment some of our governmental methods and activities in order to see whether they have in the recent past, or are now, deporting themselves in such a manner as to justify us in giving them further functions. Let us begin with the Federal government: In the Sunday, June 26, 1921, edition of the *Chicago Tribune*, we find the following heading, "*Sick Veterans Neglected in Red Tape Maze*," underneath which appears a report by Col. Abel Davis, a substantial business man of Chicago, from which I quote the following: "With nearly \$300,000,000 expended annually, ostensibly for their benefit, our maimed and disabled, with oc-

casional exceptions, are scattered through inefficient, ill equipped, private and public hospitals, poor houses, and institutions for the criminal insane, and shamefully neglected. The work of rehabilitation has been unscientific and incomplete. The operation of compensation is slow and unsatisfactory. The responsibility is divided amongst three bureaus; the work is actually performed by six governmental agencies, without co-ordination or co-operation, and without the direction and control of a single head who is vested with the power and authority to prepare a complete plan and carry it through."

In the same paper of January 17, 1922, under the heading, "*Horrible Fate of Veterans in Hospitals Told*," I quote the following: "For example," the memorial said, "in the Longview Asylum of Hamilton County, Ohio, there are forty-two gallant soldiers who broke down mentally under the stress of war, although Longview is so over-crowded that 240 of the inmates sleep on the floor like cattle every night."

In this connection permit me to call your attention to the extravagance of the government in the purchase of the Speedway Hospital. Not only this, but a more dismal site could scarcely have been selected and a more unsightly and unsuitable structure could hardly have been planned and constructed. Already it looks more like a jail than a hospital. And in a recent issue of a Chicago daily paper we find the statement that the government recently appropriated \$10,000 for the beautifying of the approximately ten acres of ground upon which it stands. Was the handling of this money given to a well qualified landscape artist? No, to a politician whose name I have forgotten, and I will now guess that eventually a goodly share of the \$10,000 will be spent for building fences, mostly political fences at that.

In the same paper we need but turn to the articles by Miss Forbes on Ellis Island, of stories of mistreatment of immigrants, substantiated in large measure by a senatorial investigation, and which subjected this nation and every citizen of it to the humiliation of the justified official protest by the English government for brutality and inhumanity by our officials to its citizens. Let me quote here how bureaucracy affects even the members of our own profession. I quote from Miss Forbes' paper. "On about six yards, through another turnstile and up before a dis-

tinguished looking doctor wearing a United States uniform. Here at least, I thought, is courtesy, at least humanity. 'Put down your baggage quick.' The same snarling command, the same threat in every gesture. I dropped my bags. Before I know what he is doing he grabs my chin and with a rough and sudden jerk that sent me reeling backwards, twists back my head, snaps open my mouth and looks at my teeth, much as one might examine a horse, only less gently. I almost lost my balance. He mumbles something and shoves me on to another doctor, also distinguished, also United States uniform. With equal brutality he grabs my head, etc." And then some of our colleagues advocate Compulsory Health Insurance, Subsidized Health Centers under County or State control, rural hospitals under University control, etc. Do they want all of our people treated by that kind of doctors with such brutality?

Just a word about the interpretation and the administration of the Harrison Narcotic Law. Judge Cornelius F. Collins of New York says: "I think we are in a sad state of affairs where doctors have been intimidated and terrorized, etc." And then read the story of persecution of Drs. Laase and Bishop of New York and Dr. John M. Manning of Durham, N. C., the latter in the *Sunday Sun* of Durham on February 12, 1922, and particularly that portion of Judge Connor's speech from the bench condemning the federal narcotic bureau and its inspector, W. H. Kennedy. Also the speech of Hon. Lester D. Volk of New York in the House of Representatives on Friday, January 13, 1922. If you wish to be alternately amused and get hot under the collar, read the interpretations of the Harrison Narcotic Law, particularly that portion which deals with the medical side of drug addiction. This is a beautiful illustration of how lay bureaucrats get their gaits mixed when they try to administer difficult medical problems, and should be a warning to both the medical profession and the public not to entrust the administration of medical matters to laymen.

We are told that during the world war it was necessary to create some fifty additional bureaus at Washington. Have any of these with their large number of high-salaried officials been abolished, or have the numerous appropriations for their maintenance been reduced either during the last democratic or present republican ad-

ministration? If they have, I have not heard of it. We are told that Mr. Hoover and General Dawes were brought to Washington to curtail extravagance and introduce business methods in Washington. They have been there about a year and we have no evidence as yet of their having accomplished anything. It is much more likely that they will be feted and lionized until they forget on what mission they came, than that they will really accomplish any reforms. It takes more than a few damns for General Dawes to accomplish anything. The first thing necessary is for the people to become aroused, makes those in power realize that no more curtailments of individual opportunity will be tolerated by new bureaus and that all old bureaus that are not absolutely necessary must be abolished.

Let us now briefly turn to the care of inmates in our own state charitable and penal institutions. In an investigation conducted some six years ago by Mr. A. L. Bowen, former executive secretary of the Illinois State Charities Commission, it was ascertained that nearly all of the state charitable institutions were shamefully overcrowded, so overcrowded that if under private control and located in the city of Chicago, fully one-half of the buildings would have been closed by the city health department under the rules of the building code of the city of Chicago. These facts were most forcibly presented to the legislature six years ago. No relief was provided and, because of the increase of population, the conditions have steadily grown worse with no relief in sight even now.

The Mothers' Pension Act, heralded as a great humanitarian act by its proponents, has actually been used to foster illegitimacy. In one instance unearthed by one of our inspectors, a woman who has six illegitimate children was drawing pensions for two of them and at the same time living with a gentleman friend who was not her husband.

In a recent issue of a Chicago paper I find the following heading: "\$2,337,000 in Taxes for Useless Garbage Plant"—which was operated at a constant loss by the city when private reduction plants are making money in other cities.

Some eight years ago a neighbor of mine and I watched street repairing in the city of Chicago. For every three laborers there was a straw boss who drew good pay and did practically nothing.



That is how your wheel tax was spent then and probably is still being spent.

From the report of the Chicago Crime Commission for the year 1921 I take the following: Murders committed, 190; alleged murderers arraigned in court, 225; alleged murderers who never stood trial, 113; alleged murderers acquitted, 57; murderers hanged, 5; escaped, 1; sentenced to penitentiary, 46; asylum for criminal insane, 3. As to method in these cases, stricken off court records, 38 per cent; not proessed, 12 per cent; not guilty, 25 per cent; death penalty,  $2\frac{2}{3}$  per cent; penitentiary,  $20\frac{1}{2}$  per cent; criminal insane,  $1\frac{1}{3}$  per cent. During the year 1921, 552 bonds in the criminal court were forfeited involving \$1,944,000. Judgment obtained in 129 cases totalling \$434,700; collections made on criminal court forfeiture judgments of \$3,700. No wonder criminals laugh at our administration of justice. Does any one familiar with the facts doubt for a minute that if those officials who have to do with the suppression of crime were all 100 per cent honest, industrious and determined and even 90 per cent efficient, and would whole-heartedly perform their duties and stop playing politics, crime could not be reduced 75 per cent in six months?

And if anyone still believes that our government is well administered, let him pick out at random and visit and carefully inspect ten police stations, ten county jails and ten county poor houses, and I will venture the guess that when he is through he will hang his head in shame.

Some will say these are individual cases. So they are, but if every case of governmental inefficiency, extravagance, incompetency, pull, favoritism, spoils politics, parasitism, nepotism, dishonesty, and graft, which occurred in all of the departments of government of the United States of America, state, counties, cities, townships and villages in the year 1921, were faithfully recorded in detail, it would not make a book but a library and it would tell a sad story of exploitation of the honest, hard working, faithful, conscientious citizens by the petty political grafters of the country and would explain why taxes are steadily going up with no prospect of abatement. The result is that honesty is actually penalized and dishonesty given the advantage. I am not unmindful of the fact that there are thousands of honest, efficient, conscientious, hard working men in the public service, but if you will ask them

confidentially, practically every one of them will tell you that not honesty and efficiency and hard work, but political pull is rewarded in public service, and that is what today makes public service so discouraging to the honest public official, and unsatisfactory to the honest citizen and taxpayer. And yet in spite of all these facts which cannot be successfully refuted, there are well-meaning but misguided people in this country and I am sorry to say in our own profession, who want to give governmental agencies greater and greater powers and curtail the liberties of the individual. Is it not strange that there are many persons who think that just as soon as a man is appointed to public office or has a title of some kind he becomes much more efficient and worthy of confidence? While as a matter of fact all the evidence at hand goes to prove that a soft berth with sure pay discourages thrift, fosters dependence, encourages sloth, destroys initiative and self-reliance and makes for inefficiency. Let the governmental bodies of this country, both federal and state with its subdivisions, first perform even reasonably well and reasonably honestly and reasonably efficiently, the functions which they are now directed to do under statute, before they attempt to arrogate to themselves new powers. I believe that the individual should be given every liberty that is compatible with the safety of the public. I believe that his activities should be as little circumscribed and interfered with as possible. I believe with Hoover in "Less government in business and more business in government" and I believe this applies particularly to the relation between the government and the practice of medicine. I am a co-operative individualist, a states-right federalist and a home rule centralist with emphasis on individualism, state rights and home rule. In other words I believe in democracy as opposed to socialism, autocracy, or bureaucracy or any hybrid combination of the latter three. While pure and undefiled democracy does not seem to be very much in favor just now, it is fundamentally sound, and those nations which have adhered most closely to real democracy have enjoyed the greatest degree of liberty and have been the happiest and most progressive. Let the individual do those things which he can do best without interference from governmental agencies. Next let the local communities, such as township, village and city, do what they can best do, then the county next,

the state next and the federal government only that which the others cannot do effectively, and this brings us logically and inevitably to condemn interference with the private practice of medicine by governmental agencies. Let us stand as a man against all such encroachments. The first attempt to socialize medicine was Compulsory Health Insurance, but in the recent past this has received a number of knock-out blows which, if they have not resulted in its death have at least put it into a deep coma. However, before Compulsory Health Insurance went into coma or expired, the beast gave birth to a litter of vicious pups answering to the name of State or County Subsidized Community Health Centers, Rural Hospitals under University Control, State Medicine, and Shepard-Towner Bill. These subterfuges of bureaucracy will eventually, if not checked, result in the socialization of medicine, the enslavement of the medical profession and, by encouraging the parasite and discouraging the honest workman, the pauperization of the public.

Autocracy, militarism and bureaucracy are the three arch enemies of civilization and progress. The former two all but wrecked the world in the recent past and the latter now looms up as a hideous monster, ready to hamstring our democratic institutions.

Conclusion: While it is necessary to keep a vigilant eye all along the line, let me repeat that the establishing of a single standard for the practice of medicine, and limiting the encroachments upon legitimate private medical practice by governmental agencies, are the two most urgent needs of the hour.

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#### GRADUATE INSTRUCTION IN OPHTHALMOLOGY\*

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Graduate teaching in ophthalmology, as well as in other special branches of medicine, as it has been presented by the so-called Post-Graduate Schools of our country, has been quite imperfect and inadequate, at least so far as providing for one desiring to practice the specialty and to pose as an expert. The charge has been made that, as a rule, the equipment of such post-graduate

schools has been very inferior, the teaching more desultory than systematic, the courses short and incomplete, with undue stress laid upon certain clinical phases, and with little or no attempt made to teach the necessary fundamentals of the subject.

Speaking generally, our post-graduate medical schools of today are about at the same educational altitude as were the proprietary undergraduate medical schools of two generations ago.

Where can one go to adequately fit himself to become an expert practitioner in any special branch of medicine? We must admit the places are few. Unless he is fortunate enough to gain the favor of some master of the subject, who will take interest in him, the prospective specialist must get a superficial training and then dig out the rest with hard effort, which sometimes he never makes. An improved character of graduate instruction in the specialties is required, not alone for the purpose of giving the desired expert training, but also for furnishing the stimulus or inspiration for better and more thorough work.

There should be three types of graduate teaching in ophthalmology, and the same might be said of oto-laryngology.

1. There should be provided short courses in clinical and fundamental subjects for practicing ophthalmologists, who wish to freshen their knowledge in some particular and can spare only a few weeks consecutively to do this. Such men should be urged to take course in fundamental subjects (as will be mentioned in the second class) and not limit themselves, as is so largely done at present, to desultory clinical work. Beginners in the subject should be discouraged from attempting to prepare for the practice of ophthalmology by taking these short courses, as is generally done at present.

Such work should be carried on as now in the post-graduate schools that exist today, but opportunities should be offered for doing some intensive work on the fundamental subjects, such as, histology, embryology, pathology, physiology, physiological optics, neurology, etc. The student should be encouraged to spend part of his day in laboratory work of this kind, and the rest of his time in well-directed clinical work. To make it possible to offer opportunities for such work, capable young men in the profession should be induced to fit themselves, by proper preparation, to teach one or more of the special subjects of

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ophthalmology, and, when so prepared, they should be allowed to take classes of two, four, six, or any suitable number under the direction of the post-graduate school, and they should receive suitable decent fees for their work.

2. For recent graduates, who desire to practice ophthalmology, there should be designed a systematic course extending over a period of two years. The first year of such a course should be devoted to study of the fundamentals and clinical subjects, about equally divided as to time, as will be discussed in detail later, and the second year should be spent in clinical work, either as intern or resident in an eye hospital, or as assistant in a well-organized eye clinic.

3. Advanced work for men who wish more thorough preparation either for practice, for research, or for teaching. This course should follow No. 2, just described, and last from one to three years longer, the student being provided with the work his needs require. Fellowships should be established for encouraging and aiding in this class of work, which, naturally, would be taken up by comparatively few.

Let us consider in detail some of the requirements for Class 2, recent graduates, who have no more knowledge of ophthalmology than that gained in their short courses in the medical school, who desire to fit themselves properly for the practice of ophthalmology.

As for the basic medical training, the prospective specialist should have full under-graduate courses leading to the degree of Doctor of Medicine in an acceptable medical school. Furthermore, as a preliminary to special work, I am decidedly of the opinion that he should have one or more clinical years in general medicine. This might be as an intern with a rotating service in a general hospital, in which the character of the work was up to a satisfactory standard, and in which the intern received proper oversight and instruction from the staff. Otherwise a year or more devoted to instruction and work in a good general clinic under suitable direction would be more valuable. Some are of the opinion that a few years of general practice might take the place of an internship.

With such preliminary preparation, the student is ready for his special work and training, and for this two years is the minimum that should be required. Such a standard has been recommended by the American Board for Oph-

thalmic Examinations, with the expectations that the opportunities for training of this grade would be offered by graduate schools. It is true that it is a much higher standard than has prevailed in the past, but it is the least that should be recommended for future graduates who wish to engage in the special practice of ophthalmology.

Of these two years the first should be devoted to systematic work divided about equally between fundamental subjects and clinical subjects; and the second should be a hospital or clinical year, preferably spent as intern or resident in a special hospital or as assistant in a well-organized eye clinic, or, lacking such opportunities, as private assistant in the service of a competent ophthalmologist.

The fundamentals should include:

1. Topographical anatomy of the head and neck.
2. Histology and embryology of the eye.
3. General pathology and bacteriology (with special reference to diseased conditions bearing on ophthalmology).
4. Physics of light.
5. Physiology of the eye.
6. Physiological optics.
7. Psychology of vision.
8. Neurology.

The study of these subjects might be carried on in the laboratories of a university, if such were available.

The clinical subjects in ophthalmology should include:

1. Special pathology and bacteriology of the eye.
2. Preparation of histories and records.
3. Principles of refraction, including skiascopy.
4. Ophthalmoscopy.
5. External eye diseases.
6. Internal eye diseases.
7. Practical refraction and skiascopy.
8. Eye muscles.
9. Perimetry.
10. Examination of color sense and of light sense.
11. Relation of eye to
  - (a) Internal medicine.
  - (b) Neurology.
  - (c) Pediatrics.
  - (d) Dermatology and syphilology.
  - (e) Industrial medicine.
  - (f) Public Health.
12. Hygiene and therapeutics.
13. Ophthalmic surgery.

The work in fundamentals and the clinical work should, if possible, be carried on together, one in the morning and the other in the afternoon. In this way there would be a better cor-



relation of the various subjects, and the student's interest and zeal would be stimulated.

As has been said before, capable men in the profession should be persuaded to fit themselves to teach one or more of these fundamentals or clinical subjects of ophthalmology so that classes of students could be furnished with opportunities for taking such work each quarter. Naturally, some of the fundamentals could best be taught in the specially equipped laboratories that exist in the universities, and this is especially true of the subjects connected with physiology, but suitable facilities could be had in the medical schools and the post-graduate schools for instruction in many of the subjects.

As to the amount of time to be devoted to each of the various fundamental and clinical subjects, experience will have to determine. The recent graduate has been over the subjects of anatomy, embryology and pathology, and all he will need is a review of them with special reference to work in the field of ophthalmology.

The subject of physiology will probably occupy a good deal of his time. If he expects to make himself familiar with the physiology of the retina (light sense, color sense, form sense, central and peripheral vision); with image formation, eye movements, projection, stereoscopic vision, and diplopia; with the practical application of these principles in ophthalmoscopy, in retinoscopy, in measurement of refraction by various methods, in testing ocular motility and binocular vision, in taking fields, in testing light sense, etc., he will need to spend a good many hours in the laboratory and the clinic, as well as in reading.

After a certain amount of instruction in the methods of examination and the principles of the subject, the student should be required to make an exhaustive examination of each case assigned to him, carefully recording all findings, and his work should be checked up at intervals by a competent superior.

As the student progresses, he should be given opportunity to assist in the regular work of the clinic or dispensary and to do independent work under suitable direction.

Operative courses should be given only when the student has prepared a good foundation for them, and has acquired the ability to thoroughly

examine the patient and to determine the indications for operation.

The student should be directed in his reading and encouraged to familiarize himself with the best literature on the subject. If he has not a reading knowledge of French or German, he should be urged to acquire such knowledge of one or preferably both languages.

As was said before, following this year of preparation there should be, if possible, a year of internship in a recognized ophthalmic hospital, or a year as assistant in a well-organized eye clinic. If these are not available, a year as assistant in the office of a reliable ophthalmologist might be satisfactory, provided the duties assigned the assistant are of educational value. Hospitals should organize their house staffs with the demand for training specialists in view. To this end there should be a larger number of externs, interns and volunteer assistants, and a goodly number of fellowships, some with and some without small stipends. In this way provision would be made for a large number of students, some remaining several years and pursuing advanced studies and research leading to a higher degree.

Until such desirable facilities are obtained, the outpatient department of Class A medical schools and the dispensaries in connection with ophthalmic hospitals would be suitable places for carrying on the clinical work of such a program.

#### DISCUSSION.

Dr. Darwin D. Barr, Taylorville: A word or two on this subject as it has appeared to me for the last few years. We are all desirous of seeing Chicago succeed as a center for this kind of work, but one or two things have been a disappointment to me. I took up this work two or three years ago and wished to succeed as well as possible in gaining information. I must say that when I approached internists in Chicago I met with much discouragement. My discouragement was this: When I inquired about the work the hope of getting anything in a reasonable time was beyond question for me at the time. I am like many other physicians, probably most of them, who take up this work after a few years of practice. We cannot get away and spend two or three years, whereas shorter courses and intensive courses for such men as have been in practice for two or three years would be very helpful. My first inquiry met with the reply that I would have to spend at least six months before I could get any work that would enable me to go home and take up the work I had begun. I have practiced medicine for several years and had performed operations of almost every kind

at my home. I had given the preliminary study and had performed most of the operations right there at home. I had performed a cataract operation and operations on the nose and throat, and when I found I had to spend at least six months on this work I was disappointed in Chicago. The men thought they were doing what was right and logical, but I sought for a place where I could get practical work at once. Other doors are open to beginners, they found out what I could do, and instead of telling me I would have to stay for month I was put right to work. The instruction was, "Take this man, give him the work and tell him how to do it."

Dr. Frances Dickinson, Chicago: I have not been among you for many years, but Dr. Wilder will remember that in 1886, no such gathering of ophthalmologists as this could have been had in Chicago. How many of you have been restricted before? entered the practice of ophthalmology, as the essayist has said? Has any one of you been so restricted? The point I want to make is this: That if you have the proper fundamental education in anatomy and physiology and of the entire human, backed with biology, chemistry, and physics, you do not require as much in the special study for the practice of ophthalmology, or any other specialty that takes in a special group of organs of the human body, to the extent that the essayist has painted it. We all know that the eye is one of the best tell-tales of what else is the matter with the system, and we know today that after you have ascertained the insufficiency of the muscles of the eye that it is not fair to interfere with their moorings if there is anything ailing that human body any where else in its entire system. Would you interfere with the mooring of any of the muscles of the limbs because they had insufficiency of action for the moment? No, you would call that man a criminal.

In 1884 I was for six months with Geheimrath Adolph Weber and to him did von Graefe will his instruments. He had a hospital of sixty beds and the clinical observations gave us an excellent opportunity. That was the summer that cocaine was introduced to the Ophthalmologists in session at Heidelberg. When Dr. Weber returned to Darmstadt from that meeting he had his two assistants of which I was one practice on him immediately. If a physician must have a year or two of hospital practice before he can practice at all where are you going to get in ophthalmology at all? To me, the entire human is wired for expression and tubed for maintenance.

Dr. George E. Shambaugh, Chicago: A few points have been brought out which I wish to emphasize. One of the speakers has complained of not being able to get the kernel the minute he goes to an educational center and expresses disappointment that this kernel, meaning opportunity to operate, is not more readily handed out to these men. I disagree emphatically with this point of view. I believe that men who come to our larger centers, Philadelphia, New York, Chicago, have been given an opportunity of operating all too soon, that is before they have had any opportunity

to learn the proper indications for operations. It is much more difficult to train a man in diagnoses and in appreciation of indications for operation than it is to teach the technique of operating. This handing out of the kernel, so to speak, to physicians who come to our cities for a few weeks special training has been responsible in a large measure for the flood of indiscriminate, unnecessary operating on the nose and throat which has swept over this country.

Dr. Wilder brought out a very important point, that is, when providing instruction for graduate students in the special field, two definite conditions have to be met. One is, instruction for those who have had proper fundamental training to undertake special work and who come more for taking review courses. Work that is suitable for these men can be provided in the post-graduate schools. The other need is to provide proper fundamental training for those preparing to practice of the special field. This sort of training is not provided in our post-graduate schools. Such training cannot be acquired by attending clinics, taking operative work, and watching others do their work. This sort of training comes rather slow and is acquired by serving as an assistant, especially in a properly organized out-patient department. A minimum of one year's full time work is necessary. The one great difficulty in this country has been that we have confused these two things, that is, review work and fundamental training. Men have come in with no training whatever and have taken such work as post-graduate institutions offer and which might be suitable as review work for men established in special practice, and with this work, usually some work on operative technique, set out as specialists. Operative technique is the last thing a beginner should be taught and this should come only after months and months of careful training in diagnoses and examination. For a long time there was a tendency for our men to go abroad for graduate work so that there grew up a system in some medical centers of providing what our American students were demanding, that is, short intensive courses. It is a noticeable fact, however, that their own men did not take these courses or rely upon this training. These courses, like our post-graduate course, were valuable as review courses but they did not provide the fundamental training which is necessary in the proper preparation. Most of the men who got this training abroad came home top heavy with note-books filled with medical facts but with very little idea of how to go about to investigate these facts.

We have in this country ample facilities for providing proper fundamental training exactly as the foreigners train their own men. Every Class "A" medical school could with proper supervision and direction take care of a few graduate students as clinical assistants. I have at Rush Medical College eight such graduate students who spend a full year and I believe that we have solved the problem of providing adequate special training for a small group. If but twelve of our Class "A" medical schools should provide for

the same number, all of the men necessary for taking care of the legitimate work in otolaryngology in this country would be receiving proper preparation.

Dr. Oliver Tydings, Chicago: I am not connected with any educational school just now, but my observation of the end results of undergraduate schools a few years ago places them where they were in 1877, when I got my degree. Men should be taught in undergraduate schools to use the ophthalmoscope as well as the microscope. They should be taught to use their eyes as well as their ears to listen to the sound of the lung, but I have never seen a man, with a few exceptions, who had the slightest idea of how to use an ophthalmoscope when he finished school. Those conditions should not be. Talk about being in practice for four or five years.—I was in it twenty-three years, and I feel that a man who has been trained in general medicine is a better observer than any student that it turned out in any kind of special course. Put a man on his own responsibility for any number of years and he will meet with things that give him a better foundation than any special training. A few years ago this specialty was taught by correspondence but this was decried and done away with. Men seeking light should be given every opportunity to get that light, and every help; that is all a man should ask and all he is entitled to,—help.

Dr. G. W. Boot, Chicago: I wish to agree with what Dr. Tydings has said. The paper of Dr. Wilder is excellent. The trouble is with the undergraduate teaching. When men come up for practical examination by the State and attempt to throw the light of a reflector into a patient's ear while the source of light is behind the examiner you know what is the matter with the undergraduate training. At Cook County Hospital we have an abundance of material for undergraduate teaching but the heads of departments will not let us use it—I mean heads of departments in schools. They prefer to talk to students and do spectacular operations before classes—operations that the most of the men will have no opportunity of seeing again much less of doing, rather than allow the students to learn by practical work how to examine the ordinary patient, how to diagnose his case and outline treatment. The result is that general practitioners all over the country are doing tonsillectomies wholesale without the remotest idea of what tonsils should be removed and what should not.

Dr. Frank Allport, Chicago: There are several things concerning the instruction of students and medical practitioners in ophthalmology and otology that I would like to mention in this discussion. In the first place, while some medical schools are doubtless giving excellent instruction in these specialties many of them are very deficient in their instruction of undergraduate students. The teaching is frequently of the old stereotyped pattern, consisting largely of didactic lectures, often deficient in quality and quantity. The clinical instruction is also frequently of the same character, and the student graduates with practically very little knowledge of these departments of medicine

and surgery. The postgraduate instruction is frequently of the same character for several reasons, chief amongst which is, the fact that doctors come to large medical centers to secure a little instruction in certain branches and to go home with a diploma that can be exhibited on the wall of their offices.

Some years ago Dr. Wood and I accepted chairs of ophthalmology and otology in the Northwestern Medical School. This was done with the distinct understanding that we should have free rein to inaugurate a wider system of instruction. We not only endeavored to teach undergraduates but postgraduates as well, feeling the postgraduate instruction should be done under the liberal auspices of the University. We went to work in earnest. We developed a wider instruction for undergraduate students. We delivered didactic lectures. We started an Eye and Ear Society for students, for which the students were required to present papers and have them discussed under our chairmanship. We worked up a large treatment clinic, where considerable responsibility was placed upon students. We had a large operative clinic, where students were required to do simple operations under instruction. We secured an anatomical room, where thorough eye and ear instruction and dissection was done. We opened an Eye and Ear Laboratory. We had a paid instructor, who instructed the students and required them to do personal work. We took a few postgraduate students, who were required to pay \$500.00 each before instruction was begun, and who promised to stay for one year of instruction. Students were required to receive thorough instruction in the ophthalmoscope, retinoscope, refraction, etc. Our department went along famously, and was highly commended by the President of the University, the Dean of the school, and the students, both undergraduates and postgraduates. It was declared to be an ideal form of instruction, and then suddenly it was announced that we were consuming too much time, and that we would be required to cut down our course of instruction to so many specified hours, and to cut out entirely the postgraduate instruction. Dr. Wood and I both resigned, feeling that we had no interest in instruction of the ordinary stereotyped variety, and that, unless we could go on carrying out our ideals, we would prefer to give teaching up entirely. Our resignations were accepted, and thus ended our dreams of proper undergraduate and postgraduate instruction in ophthalmology and otology under University auspices. We still claim that our ideals were correct, and that in course of time they will be adopted, but, like most pioneers, we were greatly disappointed. I leave these ideals with you for your consideration.

Dr. Joseph C. Beck, Chicago: Just a word, and that is on the point that Dr. Wilder brought out. You are discussing the difficulties of undergraduate teaching and you must not blame so much the teachers as the schedule that is arranged by the schools. We cannot get any more time. The time is being cut shorter every year so far as the teaching is con-



cerned. As Dr. Boot has said, that is the trouble. The point Dr. Wilder mentioned is to encourage somebody to do the teaching. How many of you will spend the time required in teaching postgraduate men? I do the best I can, but it takes young men who can take these men who are hungry for knowledge and anxious to be taught. Dr. Shambaugh is the only man I can find so far as I know to whom I can send men for a limited one year course. The trouble is so few men who know how to teach are willing to give the time.

Dr. A. H. Andrews, Chicago: There is some difference between things as they are and things as they ought to be, but we have to take them as they are and build on them, rather than as they ought to be. It would be ideal if there were places where men could get the training which Dr. Wilder has mentioned. All universities have realized this need for twenty-five years, but practically none of them have taken any steps to meet it. The real need of you and myself is not for a year or two years of training, but a place where we can go and get something intensive, two, three, or four weeks, on some fundamental subject, with intensive training. How many of you would be willing to put in a few weeks or a few months if there was some place where you could get fundamental histology, bacteriology, pathology, the functions of your eye, ear, nose and throat work? I am one of them—I need it just the same as the rest, but there is no place I know of where that can be obtained. I am willing to go into a combination with Chicago men and put up such a course for myself and others.

Dr. Charles M. Robertson, Chicago: I was not going to speak, but as you chopped Dr. Allport off, I would like to finish his speech.

The course outlined by Dr. Wood and Dr. Allport would have been ideal for any one studying eye, ear, nose and throat. The trouble was that they outline too good a course for the university, it was too complete. They had eight or ten men and as soon as the rest of the faculty found out about it they wanted to do the same thing, and there trouble began. If they had let them go on there would have been a clinic now at Northwestern second to none in the world. I have had experience in undergraduate and postgraduate teaching for a quarter of a century. There are a certain number of men who cannot take intensive training over an extended period, who must necessarily have training on some subjects. At the Polyclinic we are sadly in need of reorganization and if things go right we are going to have just such a course as is contemplated in the first part of Dr. Wilder's paper. Those men who want to take up some certain thing can come there and get it and go home. The number two course is sure to come. If men in ophthalmology and otology are going to have any standing anywhere in the world they must be equipped just as Dr. Wilder has said.

Dr. William L. Noble, Chicago: I wish to emphasize what Dr. Tydings and Dr. Boot have said. I

have been on the examining board and at Cook County Hospital we established the rule of having the doctor examine the patient and tell what was the matter with him. The three big institutions in the city sent men there, twenty or thirty of them, and they were put up against a patient in a dark room with a great big staphyloma and they diagnosed it as cataract. They did it right along. They do not recognize conditions, although they can tell all about the nerve and blood supply and all that sort of thing pertaining to the eye. The teacher of ophthalmology in one of those institutions did not think that the student had any right to take up the study of ophthalmology when he was an undergraduate. They were taught the blood and nerve supply, but the undergraduate schools are not teaching men to be doctors and to take care of the sick as they should. One of the duties of my department was to inspect medical colleges. It is not two years since the dean of one of the biggest schools in the city had an altercation as to whether he should take students over to the County Hospital and teach surgery at the bedside. Thank heaven, the surgical judgment prevailed. They are not teaching students as they should. They do not see a patient and tell him what is the matter with him, but they make the patient tell. Put them against a patient and they do not know an anterior staphyloma from a cataract.

Dr. William H. Wilder, Chicago (closing): I am very grateful for the small row that has subsided. It is always interesting. Don't forget that we are all in the game now. We are looking for the fellows who are coming in to get into the game later.

I want to emphasize again this point: Any man who is doing successful work in any section of medicine ought to feel a certain amount of responsibility toward the men coming after him. We cannot all be connected with the institutions, nor does the old preceptor system prevail. Of course, the medical schools of today are lacking in many respects but they certainly are vastly improved over what they were when Dr. Allport and Dr. Noble and I took our degrees. Then only two years were required, a very few demanded a three year course. We have gone far in advance of that and we cannot criticize the schools today because they do not turn out men trained for specialists. Our work is being cut down all the time. I cannot give in Rush Medical College more than seventy-two hours and I try to do good work. I do not let a man go past my chair if he cannot tell me there is a red reflex and use the ophthalmoscope, and all my assistants are doing excellent work to bring that about. With such a short time one cannot turn out such a product that passes for a specialist, so that they can enter right into the specialty and do good work. In deference to my friend Dr. Dickinson, I do not think her old teacher, Geheimrath Adolph Weber, would have stood for anything less than years of training such as elevated him to the position of Weber. We all want better training and so we ought to provide better opportunities for the

men coming in, for those thirsting for work. It is being done in the societies, but you must provide for a certain number of specialists who are to come after us in the generations following and the generations after that. They must be given a good course of instruction; that is what my chief appeal is for.

## SURGERY OF THE LUNG\*

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While emergency survey of the lungs can be traced back to the shades of antiquity, elective surgery of the lungs has a much shorter history. The published records show very few elective operations on the lungs through the thoracic wall prior to 1900. There were probably two reasons for this. First, the x-ray, which is so necessary in the diagnosis of the conditions requiring elective surgery of the lungs, was not discovered until the decade prior to 1900. Second, experimental operations on the lungs of dogs had been very fatal. Willard stated in 1901 that Quenn had lost twelve out of fifteen dogs, while his own experimental work on dogs had been very discouraging.

Willard's description of the difficulties encountered in experimental surgery of the lungs on the dog was enough to discourage the most venturesome surgeon of that time. He said: "Unfortunately practice upon the cadaver yields but a slight realization of the difficulties found in the living subject. I have at autopsy seen the bronchus of a dog apparently within easy reach, which same bronchus I had seen ten minutes before surrounded by huge pulmonary and azygos veins, with aorta, pneumogastric nerve, root of lung, and every structure in the neighborhood being violently dragged by the wide excursions of the lung in the frightful air hunger of the collapse from acute pneumothorax." I was a tyro in surgery at the time Willard's article was published and I well remember the profound impression made on me by his description.

Willard pointed out that in dogs, rabbits and goats a communication between the two pleural cavities rendered the entrance of air doubly dangerous but it was not generally known until 10 or 15 years later that it was this anatomical peculiarity that made opening the pleural cavity so dangerous in the dog, and that its absence in

the human made the opening of one pleural cavity relatively safe. In 1908 Samuel Robinson in a report of thirty animal operations under positive pressure said that collapse of the lung must be prevented. A few years later he said that one pleural cavity could be opened in the human without either positive or negative pressure.

A perusal of the literature on the survey of the lung from 1900 to 1910 is very interesting and instructive. In 1902 Korteweg reported a case in which he had removed a foreign body from the lung through a thoracic incision in 1900, and he claimed it was the second foreign body removed from the lung in this manner. During that period surgeons were still endeavoring to remove foreign bodies from the bronchi with forceps introduced through a trecheotomy incision; but Kilian's bronchoscope had been brought to the attention of the profession and our own E. Fletcher Ingals was beginning to report cases in which he removed foreign bodies with the aid of a bronchoscope introduced through the mouth.

Some surgeons were endeavoring to operate on the lung under negative pressure in vacuum chambers, and others were developing the positive pressure method by means of a tube passed into the glottis. Both groups were evidently laboring under an exaggerated impression of the dangers of opening the pleural cavity in the human caused by experimental work on dogs.

The late war did more to develop surgery on the lung than on any other structure with the possible exception of bones. It is now definitely known that one pleural cavity may be opened with comparatively little danger, and without the aid of negative or positive pressure. The lung may be exposed to view, and be palpated, incised and resected with comparative safety. There is still some discussion on a few matters of technique, but the main points are settled.

The chest wall may be opened under local anesthesia, by regional anesthesia, or by paravertebral injection as used by Lockwood, or general anesthesia may be used in connection with positive pressure by the intra-tracheal or intrapharyngeal methods, or general anesthesia may be used with the simple face mask. Moynihan urges the importance of getting the patient well under the anesthetic, if general anesthesia is used with a face mask, before the pleural cavity is

\*Read before Section on Surgery, Illinois State Medical Society, Chicago, May 16, 1922.

opened. Some form of positive pressure apparatus should be at hand ready to use if the necessity arises.

A rectangular flap or trap door may be made by cutting across two or three ribs and turning

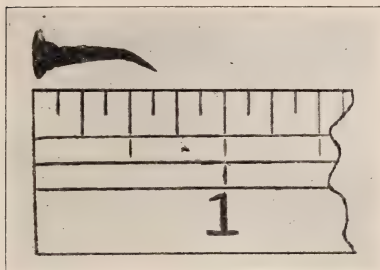


Fig. 1. Exact size of tack.

them back, but the tendency now seems to be toward spreading the ribs. An incision may be made between two ribs and the space between them increased by powerful rib spreaders and additional room obtained by cutting across one or more contiguous ribs posteriorly (Lilienthal); or a rib may be freed by cutting its cartilage connection to the sternum, and isolating it from surrounding structures and bending it back, while the incision into the pleural cavity is made through the bed of rib and a rib spreader used (Moynihan).

The suggestion of Moynihan to separate the cartilage by a V-shaped incision is good as it provides for more secure approximation at the closure of the incision. Lilienthal cuts off an inch from one of the cut ends of the rib so they can not rub together and produce discomfort during convalescence. If a rectangular flap is made and turned back provision should be made for drilling holes in the cut ends of the ribs so they may be approximated with some suitable suture material.

Drainage of the chest should usually be avoided after operations on the lung, although Lilienthal insists that drainage should always be used after resection of the lung for suppurative infections. It should be understood that operations on the lung of patients past thirty-five or forty years of age are more difficult and more dangerous.

The following case illustrates the possibilities

of thoracic surgery after other methods have failed.

Mary H——, aged 11, swallowed a tack in 1918. The family physician and mother thought that the tack had gone into the stomach and would probably pass out, although she expectorated blood for an hour or two after swallowing the tack. She developed a cough and expectoration and two months later went to the City Dispensary. The doctors there thought she had tuberculosis and sent her to the County Tuberculosis Sanitarium for ten months. Following this she felt better except when she had attacks of coughing and then she had pain in the left chest.

In September, 1920, she took sick with influenza and was taken to the St. Francis Hospital. She was quite sick for several weeks with a temperature ranging from 100° to 105°. Prior to this time no x-ray

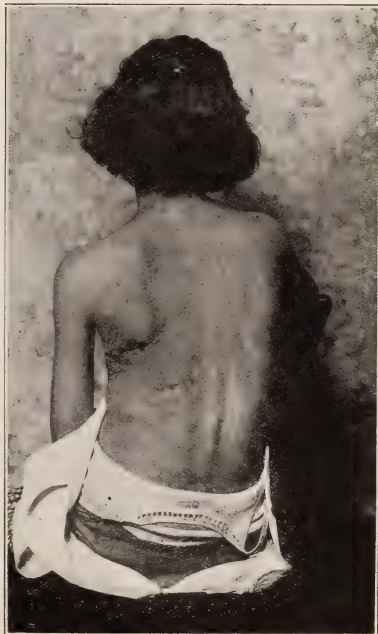


Fig. 2. Scar of incision in posterior wall of left thorax.

examination of the chest had been made, but now x-ray pictures were taken of the chest, and to the great surprise of every one concerned they showed a large tack in the left chest. More pictures were taken from different angles and they seemed to show the



tack in a left bronchus just posterior to the central portion of the heart.

In November, 1920, she was taken to St. Louis to have the tack removed with a bronchoscope. The bronchi were explored but the tack was not found. A fluoroscopic examination was made with the bronchoscope in place and it seemed to show the tack an inch above and on one side of the tip of the instrument. The patient stood the manipulation fairly well but that night she had a terrific coughing spell followed by the expectoration of a large quantity of pus. A physical examination had failed to reveal a definite abscess cavity. After this discharge of pus the plate was studied again and the observers thought they saw a triangular area that probably represented the cavity.

It was decided that the tack must be in a cavity of greater dimensions than a sub-bronchus, and that it



Fig. 3. X-Ray picture of chest showing position of tack in left chest.

was lodged in the outlet of the cavity acting as a ball valve. Another radiograph seemed to show that the tack had definitely changed its position. Another bronchoscopy was performed and an iron staff attached to a giant magnet was introduced into the bronchoscope with the hope of drawing the tack toward the magnetized staff. The attempt was not successful and the little girl was brought back to Peoria. (The account of the attempted removal with the bronchoscope may be found in the discussion of an article by Chevalier Jackson in the *Journal A. M. A.* for Oct. 8, 1921.)

She kept on having attacks of coughing lasting several days, accompanied by high temperature, followed by a subsidence of the acute symptoms. As these attacks kept recurring it became evident that something must be done. She entered the St. Francis Hospital on Jan. 30, 1921. Shortly after entering the Hospital she took one of her attacks, which weakened her so, that it was not till March 2, that we thought her condition good enough to warrant an attempt to

remove the tack through an incision in the thoracic wall.

**Operation.** Morphine 1/6 gr. and scopolamin 1/100 gr. were administered hypodermically one hour before the administration of ether. An Elsberg intra-tracheal insufflation apparatus was tested out and held in readiness for positive pressure and anesthesia if needed. The anesthesia was started with gas and oxygen followed by ether on an ordinary gauze face mask.

The incision was rectangular and the longitudinal portion was made just behind and beneath the left scapula across the fifth, sixth and seventh ribs. At each end of the longitudinal incision was made an incision extending backwards towards the spine. The three ribs uncovered by the longitudinal incision were cut with rib forceps and the incisions extended into the pleural cavity. The three ribs were bent back and fractured fairly close to the spine. This made a large opening in the chest wall through which my hand could be easily passed. There were no particular phenomena when this large opening was made and air admitted into the left pleural cavity.

There were some adhesions of the lung and parietal pleura which were separated. In the posterior portion of the cavity where the parietal pleura is reflected on the lung an opening was made to expose the hilus. No evidence of an abscess cavity was found. I searched the hilus of the lung and after some minutes I thought I felt the tack. I was not sure so a fluoroscopic examination was made which showed the tack close to the tip of my finger, and it was evidently the object I had felt. It seemed to be in a bronchus which was cut with scissors. Air began to hiss in and out of the small bronchus incision.

I passed forceps into the bronchus incision and could feel nothing, but, as the bronchus was readily dilatable, I put my finger in it downward and felt something that might be the tack. It did not feel quite hard enough for the tack. I passed in a sharply curved forceps downward toward the obstruction and grasped it. When the forceps were withdrawn they had the tack!

The openings in the bronchus and posterior pleura were sutured. The patient's condition was good all through the operation. I knew because I could feel the heart beating under my hand all the time. The pulse before operation was 140 and after operation 120. A drainage tube was placed through a small incision between the ribs at the lower portion of the pleural cavity.

I had failed to provide any instruments for drilling holes in the ribs so I had difficulty in holding the cut edges together. It was finally accomplished by mattress sutures through the muscles.

On March 5, her temperature was 104°, pulse 140. The next day the acute symptoms began to subside. On March 8, discharge of pus began through the drainage tube. On March 19, an examination of the chest showed that the left lung was functioning, but bubbles of air coming out with the pus gave evidence that the incision in the bronchus had become opened. On

March 20, the patient was allowed to sit up and from then on her convalescence was steady and sure.

She did well for several months but on October 1, she noticed a swelling in the region of the scar on her left chest. She was brought to the Hospital on October 23, and the next day an incision over the swelling permitted the escape of pus. The pus seemed to be located around the area where the ribs had been cut. Her recovery was prompt and uneventful.

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#### DISCUSSION.

Dr. Carl Beck, Chicago: This paper offers a good deal for discussion. In the first place it is very interesting and the Doctor is surely to be congratulated on his successful operation. Foreign bodies in the air passages are very common; hardly a week passes that we do not see or hear of some of these cases. We had one this week in our hospital. These foreign bodies are properly removed with a bronchoscope. There are cases in which the foreign bodies work through a process of granulation into an awkward position which is off on the side of such an instrument. That instrument can only work in a straight line. If the foreign body is not in the position of the instrument it has to be removed surgically. It does not have to be removed unless there is a mixed infection following the entrance of the foreign body. It must be about 14 or 15 years ago that I operated upon a case almost identical with the one described by the Doctor in the old post graduate school. The patient was a young man who had inhaled a collar button. He was not subjected to instrumental removal, because instrumental removal in those days was not known or was at least in the experimental stage. The x-ray in that case was secured after a half hour of difficult exposure so that the patient's back was burned. It was taken in the old laboratory of Mr. Fuchs, the original x-ray experimenter in Chicago. This young man had an abscess of the lung. We opened the abscess and there was the button. The collar button was not removed because severe hemorrhage prevented me from finishing the operation. The wound healed in and the button is still there. The young man has been through the World War as an officer. It is not necessary that the collar button should be removed, but it may cause him trouble again. It is necessary to remove these foreign bodies if they are the seat of a mixed infection because they may give rise to trou-

ble. If they give rise to trouble they must be removed and the operation the Doctor described is a good one.

Dr. N. H. Lowry, Chicago: This is a very interesting case and very well demonstrates the work we saw in France on foreign bodies. We saw the French work in the front line hospitals and we also saw some of the English work. Of course, we had to explore the lung more thoroughly than was necessary in Dr. Collin's case. We resected 3 or 4 ribs, went clear to the front line, turned a flap down and the lung was taken in hand and explored just as you would take the small intestine or stomach and it was remarkable how well those cases got along. The foreign body would be localized by palpation, a suture put around the two clamps and then the foreign body removed. Deep anesthesia was used. If the pleura was handled when light anesthesia was used it caused a great deal of coughing and vomiting. I think Dr. Collins has indicated that we should be more prone to attack lung lesions in the smaller bronchi. Dr. Ochsner read a paper last year showing a successful surgical attack of tuberculosis of the lung. I think we have been too slow in developing this branch of surgery and I think we are very much indebted to Dr. Collins for bringing this to our attention.

Dr. Norman Kerr, Chicago: I would like to bring before this Society a much simpler operation, operating under the fluoroscope. You can make very small incisions and you can see just where you are and just how to remove the foreign body. It seems to me that this is very much safer than this formidable operation.

Dr. Clifford U. Collins, Peoria: (closing the discussion) I believe what Dr. Kerr says is true of foreign bodies or projectiles in the lung substance itself. I am not willing to admit it is true where the foreign body is in the bronchus. There I do not think you should try to remove it blindly with the fluoroscope. Dr. Beck's case was very interesting. In my case the bronchoscope had been tried and had failed so this is one way out in case the bronchoscope method fails.

#### METHODS OF REFINEMENT IN OPHTHALMIC DIAGNOSIS\*

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CHICAGO

Within the last decade ophthalmology more than any other branch of medical science, has been enriched by the introduction of many improved means for ocular examination, the application of which allow of a greater refinement in diagnosis.

The examination of the eye-grounds and mediae by means of the red-free light has given

\*Read before the Ex-Internes of the Illinois Charitable Eye and Ear Infirmary, Chicago, at their annual home-coming, Sept. 15-22.

us many new details which are brought out by an increased contrast in coloration.

A substitute has not been found for the original copper sulphate and erioviridin "B" filter solutions of Vogt for the purpose of obtaining a light spectroscopically free of all variations of red. The fixed filter of Zeiss, made of glass and a celluloid film is good as well as inexpensive, though it must be replaced after a period of use. A micro-arc light is necessary as the original source of light in order that the remaining illumination be of sufficient quantity for accurate observation after the red and all of its variants have been fully eliminated.

The red-free light has given us the first absolute demonstration of the yellow coloration of the macula in the living eye, as well as an increased visibility of the retinal nerve-fiber striations. This latter allows of a diagnosis of atrophic nerve-fiber changes in circumscribed retinal areas.

Incipient changes in the macular area, an evidence of general retinal involvement, are more easily diagnosed, while advanced changes may show a greater variation of detail. There is an increased visibility of minute hemorrhages and the smaller vessel ramifications. The foveolar reflex of Dimmer as well as retinal folds and wrinkling are accentuated. The visibility of minute deposits in the vitreous is greatly increased.

The sharply circumscribed bundle of concentrated light as given by the slitlamp of Gullstrand by its combination with the binocular corneal microscope has made microscopy of the living eye possible.

A Nernst fiber was first used as an illuminant, hence the term Nernstslitlamp so often found in the earlier literature. This illuminant has now been supplanted by the nitrogen bulb containing a Wolfram spiral filament.

At first the method used for examination was quite cumbersome, the light was focused onto the eye by means of a condensing lens held in the observers one hand, while the other hand supported the binocular microscope.

Prof. Henker of Carl Zeiss then devised a combined mounting for the instruments. He attached the lens onto an arm of the slitlamp and mounted the latter with eccentric for extending, to swing on the upright of the micro-

scope base. Later on for the purpose of obtaining a greater independence of motion for the slitlamp he adopted the double arm which is attached to the base of the instrument table. This change has proven itself very practical and with the slitlamp so placed observation may be made with greater speed.

Prof. Vogt of the University of Basel designed the flattened lens which allows of a greater penetration into the vitreous, and also used a micro-arc light as a source of still greater intensity of light. Prof. Koeppe of the University at Halle made observations with polarized light and devised contact glasses for the examination of fundus and chamber angle.

Our conception of the detail of anatomic structure of the cornea, iris, lens and vitreous, and knowledge of their pathological involvement has been greatly augmented, as is evidenced by a perusal of the literature on the subject of slitlamp microscopy published within the past three years.

A greater heterogeneity of structure of the transparent cornea lens and vitreous have been disclosed. We have evidence of the numerous remnants of the tunica vasculosa lentis, pupillary membrane, and the physiological disposition of the hyaloid artery. The supporting framework of the vitreous in all of its intricacies of structure, the beauties of the lattice and balcony design of the iris stroma, the graining and surface markings of the various laminations of the lens, as well as the outline of each individual hexagonal cell on the endothelial carpet on Descemet's membrane are all before us and open to minute inspection and analysis.

In the judgment of ocular pathology with the slitlamp we are just at the threshold of possibilities. We have evidence of the permanency of deep corneal vascularization, can study the various types of dew-like changes of the corneal epithelium and endothelium, deposits and exudates on the cornea iris and lens capsule, anterior as well as posterior, the various manifestations of lens sclerosis as well as vacuole and fissure formation within the lens. We have positive proof of the progressive nature of the various types of coronary cataract in adults, have more sharply differentiated cataracta complicata from other forms of lens changes and can diagnose its very incipency by means of the develop-



ment of iridescence under the posterior and at times under the anterior lens capsule. The slit-lamp has also disclosed the great frequency of vitreous hernia into the aqueous after cataract extraction. This condition was formerly considered quite rare.

The so easily visible and common symptom

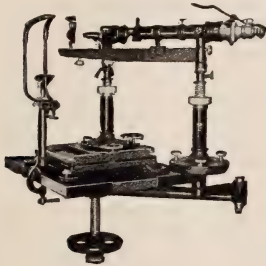


FIG. 1. SLITLAMP AND MICROSCOPE (ZEISS)

of the wrinkling of Descemet's membrane, post-operative and otherwise will soon be properly interpreted in its relation to hypotonia.

This short review mentions in a superficial manner only a few of the subjects which have been disclosed. Amplification in detail and many other directions of investigation are awaiting further research.

A third and very important addition to our diagnostic armamentarium is the Gullstrand reflex-less simplified ophthalmoscope, which instrument is designed for the purpose of examining the ocular fundus monocularly, and binocularly in the perspective, under high magnification. It may be mounted on the same table and base as is the slitlamp microscope, the same illumination, and the same head and chin rest is used, thus calling for a minimum of additional parts. One may observe by one eye with a magnification up to forty times, and binocularly with one of twenty times. The area under observation is so large that the macula and nerve-head may be seen in one picture. Two observers may see simultaneously by the use of an added special ocular, which is an aid in teaching and sketching.

While this instrument will in no way supplant the use of the hand ophthalmoscope there is no doubt of its greater value in the diagnosis of certain fundus conditions. The aid given by

stereoscopic vision in the determination of degrees of elevation is of value in the study of the incipience and progression of edema of the nerve-head, as well as changes in the macula and fovea. The cupping of the nerve-head, physiological and in glaucoma, cystic changes in the macula, as well as proof of the involvement of the very superficial retinal area in retinitis pigmentosa are best shown by this method of stereoscopic observation.

Heretofore we were limited to indirect ophthalmoscopy in our efforts to examine the highly myopic fundus. This allowed of a magnification of about four times and gives an inverted image. With the large ophthalmoscope we may now study these so interesting fundus changes in the direct image with a reasonable limitation in the power of magnification.

All of these methods of refinement in diagnosis have now passed through a period of ex-

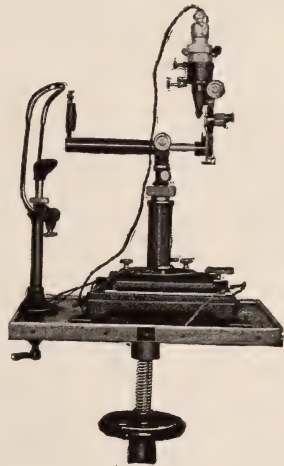


FIG. 2. GULLSTRAND BINOCULAR OPHTHALMOSCOPE

perimental application by the various clinicians who had been so fortunate as to have been able to pioneer in this research work. The results achieved have been exhaustively reported, of which fact a perusal of recent literature will give evidence, have been repeatedly verified by many observers and now are receiving the full

and enthusiastic approbation of all foremost ophthalmic clinicians.

LIST OF AUTHORS PUBLICATIONS ON  
THIS SUBJECT.

1. Ophthalmoscopy with the red-free light of Vogt. Read before the Chicago Ophthalmological Society, Nov. 18-18. (American Journal of Ophthalmology, Feb. 1919.)
2. Fundus pathology with the red-free light of Vogt. Read before the Chicago Ophthalmological Society, Feb. 17-19. (A. J. of O., May 1919.)
3. Microscopy of the living eye with the slitlamp of Gullstrand. Read before the Chicago Ophthalmological Society, Nov. 15-20. (A. J. of O., March 1921.)
4. Coronary or wreath-shaped cataract. Read before the Chicago Ophthalmological Society, Feb. 21. (A. J. of O., June 1921.)
5. Vogt—Atlas of the slitlamp-microscopy of the living eye. (Published by Julius Springer-Berlin, 1921.) Authorized translation by Robert von der Heydt, M. D., Chicago.
6. Permanent vascularization following parenchymatous keratitis. (A. J. of O., Jan. 1922.)
7. Physiological hyaloid artery remnants. Read before the Chicago Ophthalmological Society, Oct. 24-21. (A. J. of O., Feb. 22.)
8. Demonstration of examination with the slitlamp and corneal microscope. International Congress of Ophthalmology, Washington, D. C. April 1922 (by invitation). (U. S. Army Museum.)
9. Technic of observation with the Gullstrand slitlamp. (A. J. of O., July 22.)
10. Clinical observations on the cornea. (Publication pending.)

## TUBERCULOSIS IN CHILDHOOD\*

CLARA JACOBSON, M. D.  
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The results of careful studies of tuberculin reactions on large numbers of children and young adults, the finding of tuberculous lesions in peribronchial lymph nodes in postmortem examinations of many children dying of intercurrent diseases, and the large proportion of cases of adult tuberculous disease traceable to childhood contact, are all factors pointing to the importance of prophylactic work with children in any program for the prevention of tuberculosis. There are too many phases of importance in this question to warrant a discussion here of the oblique development of adult tuberculosis from childhood infection and the possibility of superinfection in adult life as against the more popular belief that the adult disease usually follows a lowered resistance to a previously existing infection, a breaking down of the defense mechanism. Suffice it to say, there is no question that childhood infections are prolific breeders of adult tuberculosis, and it behooves every physician, not merely those engaged in school work or some allied branch of public health work, to familiarize himself with the more obscure manifestations

of these childhood infections and the contributory factors of etiological importance in the later development of disease. Attention so directed ranks high in comparison with prophylactic measures used against small-pox, typhoid-fever and diphtheria. Unfortunately the methods, available, are not so concrete and clearly defined as are those which might be called wholesale methods of protection possible for the other diseases mentioned, through the vaccination or immunization of individuals in groups; for tuberculosis they must be individualized to suit each case. But the rewards of efforts include increased efficiency, assurance of well-being, and the early cultivation of positive health standards on the part of these patients.

"We have a family physician, have seen him frequently and do not see how this trouble could have developed so suddenly" is not infrequently heard in tuberculosis clinics. It might occur less often with the recognition of evidences of childhood infection, and the institution of the frequently only slight modification necessary in the daily program of the child, and correction of defects such as for instance, removal of abscessed deciduous teeth, instead of letting them "fall out" as seems to be too often advised by dentists. Leaving them in, leaves pyogenic foci present and more or less active for several years. If such dental infections are important in the etiology of debilitating conditions of adult life, as Billings and Rosenow have proven, are they less important to a child harboring a tuberculous infection?

Foremost, among the children requiring prophylactic care are those who are known to have come in intimate contact with an open or active case. What is known as "massive infection" most frequently results in a rapidly fulminating type of tuberculosis. To prevent such massive infections, it should go without saying that children should not be allowed to remain in contact with an open case, should be removed to another home or even an institution, if necessary, if for any reason the patient suffering from tuberculosis cannot be cared for away from home. By such means only, can we prevent the possibility of further infection by what might prove to be an overwhelming dose.

Fortunately, extensive tuberculous disease is not frequently found upon first examinations in children. I recall three such cases, all infants,

\*Read before Section on Public Health and Hygiene, Illinois State Medical Society, Chicago, May 16, 1922.

and dying a few days or weeks afterwards. One was supposed by the mother to be having a rather prolonged whooping cough, the child had had pertussis three months before, another a "bad cold," a third convulsions, supposed by the parents to be due to teething or diet but in fact found to be due to tuberculous meningitis. Of instances where infants were removed from tuberculous mothers immediately or soon after birth, and coming to my attention, two out of four born within the past two months, are still living. Two, a pair of twins, died aged three weeks and judging from their apparently very poor physical conditions at birth may have contracted the disease through intra-uterine infection. J. W. Allen and M. Dubois have presented evidence of this possibility although Virchow, who had had a vast autopsy experience, stated he never encountered a case of fetal tuberculosis.

Tuberculous infection in an infant is, according to Fishberg, almost always followed by symptoms of the disease and "when the infection is massive, acute general tuberculosis with implication of the glandular system and often of the lungs are most invariably caused." The symptoms vary with modes of onset and the parts of the body bearing the brunt of the infection. They may be characteristic of broncho-pneumonia, meningitis, generalized adenopathy, or septicemia following progressively increasing malnutrition in spite of proper diet and care.

If you attend the clinic at the Municipal Tuberculosis Sanitarium tomorrow, you may have the opportunity of studying the x-ray plates of two infants, aged ten and nineteen months respectively who later died of pulmonary tuberculosis. An interesting feature of these two cases, according to their attending physician, Dr. J. S. Cohn, was the finding of tubercle bacilli in sputum specimens, obtained by means of swabbing their throats immediately after coughing. This is a method worth remembering in examining a prolonged or a typical case of what seems to be broncho-pneumonia.

Pulmonary and generalized tuberculosis in infancy and early childhood, presents a most unfavorable prognosis. According to some observers this extends to the fourth year of life. We have, however, frequently found evidence of tuberculous infection with but slight symptomatology, especially in children over three years of age. J. V. Cooke and T. C. Hempleman refer

to such cases as "Masked Juvenile Tuberculosis." Others regard them as cases of glandular tuberculosis. Clinically, they give histories of frequent colds and coughs, attacks of unexplained fever, often with afternoon elevation of temperature, anorexia, loss of weight, and asthenia. Malnutrition, apparent anemia, enlargement of superficial lymph nodes, especially cervical, and signs in the chest referable to enlarged tracheo-bronchial glands are noted upon examination. Von Pirquet reactions are positive. Roentgenological findings confirm the presence of enlargement of mediastinal and peribronchial glands, above referred to. Also, there may be seen nodules, especially in the lower lobes of the lungs, and according to some these are diagnostic of the tuberculous cause of the tracheo-bronchial glandular enlargements. Fatigue, listlessness, loss of weight, anorexia, with evidence of enlarged glands, either intra- or extra thoracic, or both, make up a symptom-complex justifying the inauguration of an antituberculosis regime, modified according to the severity of the symptoms and findings presenting. Regression of lesions with recovery, is thus most assuredly obtained, even stimulation of the body to produce certain substances, protective against future infections, is possible. There is thus prevented the development of a more manifest tuberculosis through extension of the process, or the persistence of a marked lesion to adult life with a possible later development of active tuberculosis. Pulmonary tuberculosis presenting the same symptoms, signs and findings, characteristic of the types commonly found in adults, also occurs in children occasionally.

Contacts with open or active cases, even though apparently well, should be carefully examined for the development of latent foci every three to six months, oftener if indicated, for two or three years after the period of known exposure and until there are no longer symptoms or findings suggestive of tuberculous activity. The opportune time for correction of minor defects, such as dental work and removal of tonsils and adenoids, where indicated, may thus be selected, incipient pulmonary lesions detected, and hygienic instructions given and emphasized where required. Examination of contacts with cases of pulmonary disease which may be masquerading as suffering from asthma or chronic bronchitis



will also yield a group in need of this kind of medical supervision.

During the past few years, newspapers and magazines read by the general public have focused considerable attention on the mal-nourished child. In a considerable number of cases this has led to a request for a medical opinion of the physical condition of these children. Perhaps a large number of parents have sought improvement on a purely dietary basis, seeking advice "what to feed" and "how to get them to take it" because of failure to come up to an arbitrary average for height. Opportunities for the discovery of manifestations of tuberculous infection have resulted. Other such opportunities present themselves where parent, teacher, nurse, or school physicians, have noted changes in appearance or behavior which lead to a suspicion of underlying trouble. Where subsequent physical examination proves justification for such suspicion and evidence of tuberculous infection, "glandular tuberculosis" we may say, every effort should be made to find the source of this infection and prevent repetition or continuance, and incidentally, perhaps save other children from the dangers of infection. Such investigation may cast suspicion on the milk supply and the possibility of bovine infection, particularly where pasteurization is not the rule. Interesting statistics are offered by Griffith, Novick, Park and Krumweide, and others. In surgical glandular, bone and joint tuberculosis, scrofulodermas and meningitis, a large percentage of bovine infection occurs, particularly in the under five years of age group. Regarding the possibility of later development of pulmonary disease from such bovine infection the evidence seems to indicate this to be highly improbable. While in a large series of tests made by Park and Krumweide, 2.8 per cent. of cases of pulmonary tuberculosis in children under five years of age were found to be due to bovine infection, in none of the five to sixteen years of age group and in only 0.4 per cent. in adults were the bovine type of tubercle bacilli found. Furthermore, mutation of the types of tubercle bacilli is known to be exceedingly difficult if at all possible of accomplishment by laboratory procedures. Cases followed for years have failed to show changes in type of the organism. Weber and Steffenhagen record following one case of surgical tuberculosis of the hip for ten and a half years, invariably finding bovine bacilli alone.

Perhaps we should, as Allen Krause advises, "take the incident of tuberculous infection for granted" and proceed with the sole purpose of preventing its development at any time or restrict this to a minimum. We will grant every child should be given the advantage of instruction in hygienic regime, also every effort should be made to limit the measles, frequent colds, whooping cough, diphtheria, etc., which we know tend to bring out manifest tuberculosis in neck nodes, lungs, bones, joints, etc. Such measures should be taken for granted, but we wish to emphasize the advantage of limitation of the source of infection. Two or more cases developing in one family are so frequently seen, not because of some hereditary influence, I believe, but because of failure to locate the source of infection in the first case and prevent further spread, or failure of instituting effective isolation in the first case developing, and inadequate follow up work with contacts.

The matters here considered are not wholly new; they have, in large measure, been in operation for some time in the work of the Chicago Municipal Tuberculosis Sanitarium and dispensary system. We believe their effectiveness has already been demonstrated. A more widespread adoption is desired.

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#### DISCUSSION

Dr. J. S. Cohn, Chicago: It is interesting to note that we seldom now see any glandular or bone tuberculosis in children. Years ago we had many of these conditions especially of the surgical type. This was due to the fact that the milk in Chicago had not been

pasteurized prior to six or seven years ago. In other words, bone tuberculosis and glandular tuberculosis had been due to the bovine bacilli. Now, due to the fact that the milk has been pasteurized, we seldom see any such infection.

Text-books and the teachings refer to pulmonary tuberculosis in children or young infants as comparatively rare. The tubercle bacilli usually attack the lymphatic system in childhood. At the Municipal Tuberculosis Sanitarium, where many cases are treated, we find it quite common to see pulmonary tuberculosis in young infants.

Two of the cases referred to in Dr. Jacobson's paper came to the Sanitarium on my service. One was an Italian baby exposed to an open case in the mother with a positive sputum. This baby was nursed for two months and then weaned but was kept in contact with the mother for about eight months receiving, as we call it, massive doses of infection. When this case entered the Sanitarium it had all the findings of a typical lobar pneumonia. There was consolidation on the left side with the bronchial breathing and subcrepitant rales. The diagnosis of pulmonary tuberculosis was made and the case then x-rayed. The plate showed increased density over both left lobes. Direct smears made by swabbing the child's throat were reported positive by the laboratory on three different occasions. The patient grew progressively worse and died in three weeks. The second baby, ten months old, went through practically the same course—consolidation of left chest, bronchial breathing and moist rales, increased density on the x-ray plate and several positive sputums. This baby died in two weeks without a fighting chance. All known positive sputum cases of tuberculosis should be isolated from children, especially within the first decade of life. The Lord knows there are plenty of tubercle bacilli around, outside of the known positive sputum cases, where the child even if isolated can pick up the germ in smaller doses and in that way receive gradual immunity. When it receives massive doses of infection during the first two years of life, the prognosis is very poor.

The Health Department of the City of Chicago strictly enforces the state law that no children can live in the same flat or home with known positive sputum cases.

There is no doubt that many cases of pulmonary tuberculosis in young infants are diagnosed broncho or lobar pneumonia and signed out as such on the death certificate.

Dr. Vida A. Latham, Chicago: I would like to emphasize Dr. Jacobson's remarks about the dental side. I am sorry to say that the medical profession today is not wide awake to the importance of the oral side of infection.

There is truly an objection to extracting teeth prematurely. That is where the difficulty comes in treating cases. We are now seeing cases where we have so many contracted jaws, that something must be done to open up the nasal passages, jaws, the sinuses and

the mouth, and in that way get better occlusion. If we have no good repair work in this condition, we cannot expect to get the air in the passages and into the lungs to give the child the benefit of aeration, its proper hygienic surroundings, chest expansion, food, and so forth.

If the teeth are the cause of tuberculosis—and I believe there is a case or two on record that have been traced from making a culture that has been recorded so far—then why is it that the sections of glands of the neck do not show more bacilli? They do not show bacilli in proportion to the amount of dental caries or lymphatic infection.

If we can get the medical profession and the laity to regard the dental profession as having something to do with it, from a hygienic standpoint, we will have done an immense piece of work. The mechanical side of dentistry and the dental supply men who are selling appliances are the men today, from the mercantile standpoint, who are encouraging extension lectures in dental surgery and the work for the welfare of the laity. They have contributed a fund of over 500,000 dollars to advertising and to help the profession and the laity to realize the far reaching bad results of poor teeth. Ladies and gentlemen, that should not be! This should come to the laity from the profession at large, dental and medical. We must co-operate. And this Section can do a great deal of pioneer work because it should do it. Our women's clubs, our mothers' clubs and free clinics should have work along dental-pathological lines just as much as dietetic.

I am very glad Dr. Jacobson brought this out because it is not necessary in every case to extract; but it is necessary to clean up the oral cavity, tonsils and the decayed teeth. There is no question about that.

It is a difficult thing to decide sometimes about extraction because the treatment of a primary tooth hurts the enamel of the second tooth that is coming. And if you have bad dietetics and habits behind it, you naturally have bad teeth.

We have to go a step further and teach the mother, in the antenatal period, to take care of herself; and, in the postnatal period, to improve her diet and teach control to the child in habits and morals and right living.

Dr. A. S. Hershfield, Chicago: I would like to supplement Dr. Latham's remarks on the teeth as a source of infection and the attitude of the dentist in the treatment of bad teeth in children.

Now, in my experience we examine the children and children's teeth in the health work and find it to be a fact that dentists as a rule do not care to treat children. They seem not to have the patience. I think they have to have a certain temperament to treat children's teeth. They usually and invariably tell the parents or the guardians that these are the first teeth of the children and they will fall out anyway.

I have seen children with teeth every one of which practically were in a condition to be pulled, beyond

the treatment stage, and they had gone to a number of dentists who absolutely refused to take care of the teeth.

I think it ought to be the sense of the Public Health Section to go on record that we should have some co-operation or some means of getting in touch with the dental societies to spread broadcast the necessity of treating children's teeth.

They are undoubtedly the source of infection. We see that in the hundreds of thousands of children with carious teeth that require treatment and are refused treatment on the part of the general practicing dentist. We have a great deal that we can lay to the door of these dentists, without any question.

Some of these dentists, even when there have been abscesses, where there is danger of spoiling the second set of teeth, will not touch these teeth until the abscess goes down. This is a most important part of the discussion of that paper. There is no question about the great source of infection because the average mother does not teach the child to take care of the teeth. In spite of the great work being done by the public schools of Chicago through the school health officers, that subject is not even touched upon, and I believe that we have a great work before us.

Dr. Clara Jacobson, Chicago (closing the discussion): The last discussion is easiest to take up first.

Prophylactic dental work is certainly of the utmost importance. Proper habits are thus formed, and it is gratifying to see a child's pleasure in the good looks of the clean set of teeth after they have been "polished" by a dentist.

Whether or not these decayed teeth may serve as portals of entry for tuberculous infection, in many cases there is no question but that their presence results in a lowered resistance. Also general food intake may be limited because of aching and decayed teeth. Prophylaxis, keeping them in good condition until such time as the secondary teeth are ready to come, is important.

On the other hand, abscesses of the gums should not be allowed to remain, and if treatment is not possible, extraction of the teeth may be necessary.

On the subject of the infrequency of surgical, glandular and bone tuberculosis as compared to findings of a few years ago, and its possible relation to the limitation of bovine infections by pasteurization of milk, I agree we now see remarkably few cases of discharging sinuses from glandular or bone infections. Of these, those due to bone tuberculosis are perhaps more common.

Outside of the city and in such clinics as the Mayo Clinic, for instance, I have heard that it has been remarked that many cases of surgical tuberculosis come from the rich farm lands of Minnesota and from places where it would seem that the children should have every opportunity to be in good health.

One other matter that I might take up is a reiteration of the fact that pulmonary tuberculosis, presenting the same symptoms, signs and findings that occur in adult life, also occurs in children.

A child who has a definite tuberculous pulmonary involvement is not necessarily doomed to die within a very short time but it is true that the prognosis of pulmonary tuberculosis in childhood is worse than when it occurs in adults.

I believe that takes up every question that has been brought up, thank you.

#### THE PRESENT EXCESSIVE COST OF HOSPITAL SERVICE

Dr. E. MacD. Stanton of Schenectady, New York, in an address before the American Medical Editors' Association at Cleveland, Ohio, October 16-17, 1922, said:

Cupid is ravaging the nursing forces of hospitals to a tremendous extent. Fifty thousand trained nurses and 30,000 student nurses, requiring one-fifth of the girl graduates of high schools, are needed now, he said. His study of Ellis hospital, Schenectady, showed that five years after nurses graduate from school 57 per cent are married. Ten years after graduation 85 per cent are married.

Excessive costs of hospital service, prohibitive often to the average man, were scored by Dr. Stanton. He cited figures that showed it cost \$39.50 to obtain the best hospital service in a surgical case in 1913, whereas now the same service costs \$134. "This is four times greater than can be excused on the plea of the general increase of the cost of living," he declared.

#### PUBLIC CLINICS SHOULD BE KEPT WITHIN THE BOUNDS OF ABSOLUTE NECESSITY

Dr. Merrill H. Champion, director of the Massachusetts department of health, at the meeting of the American Public Health Association at Cleveland, Ohio, October, 1922, flayed the treatment of disease by the government. He stated that the unwarranted use of material relief whether in the form of food or medical treatment goes to destroy the sense of responsibility on the part of the individual and results in his pauperism, he said. "Public clinics should be kept within the bounds of absolute necessity."

#### 1921 HOLDS RECORD FOR LOW MORTALITY

The Census Bureau for 1921 for the Registration Area of the United States shows the death rate was a record low one, the figure being 11.7 per thousand inhabitants in 1921 as compared with 13.1 per thousand inhabitants for 1920. The infant mortality rate also decreased from 86 per thousand inhabitants in 1920 to 76 per thousand inhabitants in 1921. The registration area includes a population in this country of 70,425,000. Figures on the birth rate show 24.3 per thousand for 1921, as against 23.7 in 1920. The statement of the Census Bureau further shows 1,714,261 births for the year, and 823,511 deaths, of which 129,588 were of children.



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NOVEMBER, 1922

## Editorial

### DOCTOR, STAND UP AND BE COUNTED!

It is high time that the members of the medical profession bring the public to a realization that medicine is a big business and that the men engaged in it are deserving of respect and confidence. The psychological effect of such a campaign will be to have the lobbies of the legislative halls crowded with medical men who have been trying to get into the meetings and to have people talking about the big gatherings the doctors are having.

Doctor, what do you represent in your community, or rather, what do you think you represent? "As a man thinketh in his heart, so he is."

If you think you are engaged in a worthy and reputable business, you will stand up, with your shoulders back, and insist upon proper recognition. If you are ashamed of your profession, you will apologize and deprecate and people will treat you accordingly, and think of your profession in the same way.

Ford, Rockefeller and all the other millionaires do not do as much for humanity and for the happiness of the world as is done by the med-

ical profession, every year. The medical man should feel that he is a great factor in the world, that he is continually building up something worth while for those who are unfortunate. He should think of himself as a builder of affairs for the future, and in thinking so he will be a better physician. And will develop a more favorable sentiment for the great profession in which he is engaged.

### PROCLAIM YOUR CAUSE THROUGHOUT THE LAND UNTO ALL THE INHABITANTS THEREOF

Few physicians appreciate the changing conditions of recent years in the practice of medicine. Few doctors are conscious of the lack of business acumen on the part of the medical fraternity in meeting these changed conditions, which menace the lives of thousands of people and stultify the influence of the profession. Lack of comprehension of the many serious problems confronting us coupled with passive acquiescence and a feeling of false security regarding the safety of the future of medical practice, is responsible for a drift towards dangerous shoals. There State Medicine, socialization of medicine, Workmen's Compensation, Pay Clinics, Compulsory Health

Insurance enactments loom large ahead and cast their shadows before them.

Awakened public opinion is the greatest force in existence, but public opinion is not a self starter. Artificial stimulation is essential. For generations the medical profession has been living in a state of self-hypnotism, satisfied with developments as they are and regulated by a restricted code of ethics, that has denied the physician his inalienable right to be heard. As a result the profession has lost caste with the public. The doctor is misunderstood. This lack of comprehension of the doctor and his works has allowed the many cults and isms to creep in and jeopardize the health welfare of the people.

At no time have the recognized schools of medicine done anything to offset the effects of new and erroneous curative theories that are constantly being put forward in the guise of systems of medical practice. One by one, these cults blossom out and secure a following among the people. Organized medicine has failed to make serious attempt to counteract this evil by education of the public to the tremendous strides made in medical sciences and showing the public what medicine has accomplished, is accomplishing and will accomplish towards the cure and prevention of disease.

Our medical organization must be up and doing. The time is at hand when organized medicine, with the welfare of the profession at heart, must study the trend of the times and recognize the innumerable dangers confronting the future of medicine. Solution of our medical problems lies in the better understanding by the body politic of the accomplishments of medical science.

It is only natural to expect that laws relating to the health of the people should emanate from the medical profession. In actual experience, the exact opposite is the rule. We have but to scrutinize the thousands of proposed bills affecting the practice of medicine, and also to note the vast number of laws yearly enacted, affecting the health welfare of the people and observe that in a great majority of instances, how the recommendations of medical men have failed and those of the sentimentalists and theorists have guided the enactment of medical laws. In most instances those whose knowledge should have been followed in directing medical legislation, have

had little or no voice. There is something wrong with the lawmaking bodies and that something is lack of enlightenment of the public. In this important matter, the burden of education of the public, rests upon our profession. The doctor and his deeds must be brought back into the confidence of the public, and only he himself can effect this return to the fold. What he has wasted through negligence, even though it be the negligence of our modesty, the doctor can regain only by diligent missionary work in behalf of the mother profession and let it not be thought for a moment but that this missionary work is a sacred trust that each physician must set about performing. It is a part of his dedicatory oath that he should conserve the health of the people and he is not only betraying the mother science but actually he sells himself, his fraternity and the people they are consecrated to serve—sells them into a bondage of sickness and death—when he sits idly by and permits the public to be humbugged.

If medical achievements were better understood by the public, the voice of the profession would be increasingly a factor in constructive health legislation, that would ultimately redound to the betterment of the laws and the security and respect of the profession.

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### PITILESS PUBLICITY IS THE CULT-KILLING CORROSIVE

THE ILLINOIS STATE MEDICAL SOCIETY CON-  
TEMPLATES A CAMPAIGN OF EDUCATION  
OF THE PUBLIC

The menace of the quack and the despoilation of the doctor will receive a lethal knock-out blow from the lay-education publicity campaign now under consideration and that probably will be undertaken by the Illinois State Medical Society. Every physician and surgeon in the state is asked to co-operate and is needed in the campaign. Medicine has sat silent for too long. Through glaring spectacular statements, and bought and paid-for space in newspapers and periodicals, the charlatans have distorted medical facts and are menacing the health welfare of the people by playing on the credulity of the unsophisticated.

So brisk is trade in the cults, that even blacksmiths, carpenters, plumbers and dressmakers are being recruited to take easy courses of from

three to six months' duration and hang out shingles as healers.

At the State meeting of the Illinois State Medical Society it was voted to fight the quacks with their own medicine. The matter was taken up by the council of the Society at its September meeting and a committee was appointed to devise ways and means to educate the public to the dangers of medical practice by the untrained and uneducated. The committee was instructed to prepare and supervise matter that is to be printed in the daily newspapers and periodicals that will open the eyes of the public as to the progress in medical science, what medicine has done and is doing for humanity, which is intended to specifically impress upon the people at large, that a sick man needs a doctor and not a mountebank. Articles for the lay press will be handled by reliable organizations, familiar with the best methods of securing results from publicity propaganda.

Educational data will be placed before the public, largely through the lay press, assisted by lectures, pamphlets, etc. The subject-matter for the press, pamphlets and the themes for the addresses to be made in public places will be educative, elucidative and general. Exploitation of any one individual or paternalistic theory, or groups working at propaganda purposes will be disbarred. This campaign will be along lines showing the virtues of the real in contrast to the dangers of the bogus. It will open the eyes of the men who are too ignorant to distinguish medical skill from bunkum, and clear away the fogs from those who should know better but who do not—turned in the wrong direction perhaps, by some careless physician who is prone to despise the "Day of small things" and laughed away the seeming trivial pain that a patient complained of, because only an appendectomy or a cancer of one of the important organs, was of moment enough for consideration.

The newspapers of the present day are without doubt the greatest educative mediums. When the campaign is launched, it is through these that the committee will work with interesting editorial articles and descriptive stories, enlightening the public as to the truth and principles contained in these developments, progress and necessities of medicine and surgery, and its application to human well being.

The United States Government has found it

expedient to advertise government securities in this day of get-rich schemes. Purveyors of natural resources, such as leather, wool, butter and eggs, are advertising daily the difference of their products over the synthetic wares flooding the markets.

Medicine must retain her traditional dignity, but when the health welfare of the people is jeopardized, she must arise and expose the invaders.

A campaign of the sort alluded to cannot be prosecuted without funds. The treasury of the state society is without the needed money, the campaign, therefore, if carried on at all, must be supported by popular subscription. It is, therefore, hoped that when the doctors of the state are solicited to subscribe for this worthy cause, every doctor will respond cheerfully. Serious diseases diverted from the incompetent will result in the saving of thousands of lives and will prevent much permanent invalidism.

Pitiless publicity is the cult-killing corrosive!

Practical ethical publicity is the redemption of the profession.

For the sake of humanity, let this campaign flourish!

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### IT IS WELL FOR ALL DOCTORS TO TAKE THIS ADVICE TO HEART!

Cultism is the sinister venom of present-day care of the sick.

People must be educated to this danger. Such training is the only sane course to pursue because in recent years the question has become acute in many states. During the coming year the proponents of cultistic measures promise to introduce this sort of legislation into all the states. In fact they hope to get such legislation passed in so many states that it will eventually become a recognized national necessity. No matter in what state you may live, you should begin at once to combat these measures.

Because of the rapidly rising tide of propaganda tending toward prohibitory medical legislation of all kinds, the physician as well as the public must be taught to take an increased interest in the ballot box; everyone should go to the polls and vote intelligently on these subjects. Any dunce can lock the barn the morning after the horse is stolen. The wise man locks his the night before. Now is the time to lock the doors of medical legislation against the hordes of in-



competents who jeopardize the lives of the people.

It is well for all doctors to take this advice to heart.

### SCRUTINIZE THE CANDIDATES FOR THE LEGISLATURE

Between now and election day—November 7th—much may be done in developing the character of the personnel of the next legislature. The records of candidates who are standing for election or re-election, having been made known, every member of the Medical Society should get down to fundamentals. The candidates should be interviewed and be asked to declare their position upon questions affecting the medical profession and their attitude towards every sort of sub-standard practice. If they do not stand for what we think is right, we should hold to the courage of our convictions and bend every energy to defeat them.

### A PROTEST TO THE SURGEON GENERAL U. S. PUBLIC HEALTH SERVICE

In September of this year some of the Chicago daily papers carried an open letter of endorsement by one of the physicians in the U. S. Public Health Service of the Public Health Institute of Chicago, a concern treating venereal diseases, soliciting patronage by means of page advertisements in the daily press.

The Council of the Illinois State Medical Society at its September meeting took official action relative to the endorsement of this institution by an assistant in the U. S. Public Health Service. The secretary of the State Society was instructed to write the Surgeon General relative to the matter. The following is the letter:

September 30th, 1922.

To the Surgeon General,  
United States Public Health Service,  
Washington, D. C.

Dear Sir:

By direction of the Council of the Illinois State Medical Society I address you that your attention may be invited to one of the several uses to which a letter emanating from the office of the Surgeon General of the United States Public Health Service has been put.

The newspaper clipping which I enclose was taken from the *Chicago Tribune* of September

8th, 1922 and in its style of set-up, location, and relation to appended news matter, bears the earmarks of an attempt at personal advertising in behalf of a political appointee, a Health Commissioner in his home town.

It is believed that this was not the purpose of the Federal Service in authorizing the making and "mailing of one thousand copies of a page advertisement" (if it did) and it felt that a Federal Service should be depended upon for the exhibition of the greatest circumspection in its quasi-endorsement of self-introduced or unknown institutions.

Your attention is respectfully invited to the facts, so far as we have been able to determine, the Chicago Public Health Institute employs no man with an M. D. degree who is a member of the American Medical Association; that the code of ethics of this Association prohibits the advertising for patients for pay by any man or institution; that proper or effective treatment depends, above all things, upon the particular man in direct charge of its prescription and application; that the ability of that man depends, not alone upon his early education and practice, but also and equally upon his professional associations and habit; and that, in the United States, the code of ethics mentioned in this paragraph is the absolute arbiter of standing in a profession which may justly claim to have made the Federal Public Health Service what it is today. The medical profession has been the father of all successful activities for the public health and there is every reason to believe that a continuation of cordial co-operation between the parent and its offspring would continue to work for the best good of the public we serve.

The doctors employed by the Chicago Public Health Institute are not endowed with absolute knowledge but only with relative knowledge concerning the diagnosis and treatment of venereal diseases and so the evident quackery of advertising for patients for pay is not lessened by the mere possession of money or of newspaper pulling power by any sponsor of such an activity.

It is, without doubt, well-known to the Surgeon General that the laity is prone to accept extravagant claims as absolute fact, if only they be made with plausibility. And it is with this in mind that members of the Council of the Illinois State Medical Society have been led to express the hope that the greatest of circumspec-

tion might be exercised by professional men in high places, when asked for endorsement of private activities.

The incident is related for your earnest consideration.

Yours very truly,  
W. D. CHAPMAN, M.D.  
Secretary.

#### NATIONAL CANCER WEEK

The second annual National Cancer Week will be held November 12-18, under the auspices of the American Society for the Control of Cancer. The very marked and gratifying success of the first Cancer Week in 1921 and the widespread interest aroused in the problem have aroused hope that another such campaign would meet with continued success. The plans of the Society comprehend the use of the following methods for the coming effort: Written articles in medical and surgical journals, newspapers, and other periodicals; enlistment of the motion-picture houses for showings of lantern slides (see below), four-minute talks, distribution of cancer leaflets, and showings of the Society's educational film, "The Reward of Courage"; scientific and public lectures before medical societies, medical schools, nurses' organizations, etc.; popular lectures before churches, women's clubs, fraternal orders and lodges, civic clubs, chambers of commerce, labor unions and trades councils; radio talks; demonstrations and diagnostic clinics; distribution of circulars, bulletins, etc.

Mr. Van Ness Harwood, who conducted the Society's publicity last year, has again been engaged for this year. Short cancer articles will be sent regularly to all the principal newspapers in the United States and Canada. Cancer articles have been requested by many monthly and weekly magazines, and these are being prepared. Two lantern slides entitled "A Message of Hope" and "Danger Signals That May Mean Cancer" were prepared and financed through the efforts of Mrs. Samuel Adams Clark for Cancer Week last fall, and they may be purchased from the Society, on glass for 16 cents each, or on mica for 8 cents each.

The Society now has 655 cancer committees, active state organizations for greater centralization of administration. All of these groups are co-operating wholeheartedly in the coming campaign.

#### AMERICAN MEDICAL EDITORS' ASSOCIATION COMMENDS DR. ERNEST S. BISHOP

UNANIMOUSLY ADOPTED BY THE CONVENTION OF  
AMERICAN MEDICAL EDITORS' ASSOCIATION,  
CLEVELAND, OHIO, OCTOBER 17, 1922

WHEREAS, A member of this Association, Dr. Ernest S. Bishop of New York City, who is recognized as one of the foremost clinicians of the country, and who during the past decade has done more than any other one man to place our knowledge and comprehension of narcotic drug addiction on a sound scientific basis; whose own studies and investigations in Bellevue and other New York City hospitals have conclusively shown that this condition of narcotic drug addiction is a true disease, with a pathology and symptomatology as characteristic and definite as that of any other disease entity; whose rational ideas and methods of treating narcotic drug addiction have not only appealed to the medical judgment or competent practitioners generally, but have proven effective and successful in the treatment of many cases of this intractable disease; who has been a true scientist in every sense of the word, unselfishly giving his time, skill, labor, and income to every phase of the problem; who has been called upon by his fellow physicians the country over, and has never failed to respond to their requests for aid and assistance, and has freely taught his colleagues the results of his studies and experience in the management of narcotic drug addiction; who has contributed more to the literature of narcotic drug addiction than any other physician in this country or Europe, and whose book on the subject is conceded to be one of the most helpful and important contributions to the scientific study of this disease in any language: and

WHEREAS, This man, who has given so largely of his thought, time, physical and mental strength, efforts and money to this problem, and who has been conceded by the majority of medical men, both in this country and Europe, to be one of the foremost students of narcotic drug addiction, was secretly indicted three years ago for alleged violation of the Harrison Anti-Narcotic Act, and

WHEREAS, Every one who knew Dr. Bishop, his faithful work and devotion to the scientific study

of narcotic drug addiction, were confident that a grave mistake had been made, that it was impossible that a man of such standing, reputation and personal integrity could have knowingly and wittingly committed any infraction of the law he had consistently upheld in its fundamental principles and purposes; and

WHEREAS, As a consequence of this indictment against a man of the standing and reputation of Dr. Bishop, and the fears engendered throughout the medical profession by such action, all scientific study, investigation and research were immediately stopped and suppressed, and have remained so ever since, and

WHEREAS, Although Dr. Bishop was indicted in January, 1920, he has been kept in suspense, with this cloud constantly hanging over him—and thereby prevented from continuing the scientific studies and work, which are so urgently needed for the sake of humanity, as well as medical science—with no sign or prospects of the matter being brought to an ultimate issue, and

WHEREAS, We who know Dr. Bishop, the character and principles of the man, and the jeopardy to his health, the injury to his means of livelihood, and the effects on his co-workers, believe that steps should be taken without delay whereby the medical profession and those afflicted beings who are suffering from narcotic drug addiction shall have the benefit not alone of Dr. Bishop's scientific knowledge, skill and research, but also the cooperation of the many other physicians who realize the needs of studying this grave problem of narcotic drug addiction, but have been suppressed and prevented from active investigation by the fear of receiving similar treatment to that accorded the man considered one of the country's foremost authorities;

*Therefore Be It Resolved*, That we, the American Medical Editors Association, confident of the absolute innocence of Dr. Ernest S. Bishop and believing that the situation today in regard to narcotic drug addiction calls for scientific study and investigation as never before, together with the earnest help and cooperation of every individual who realizes the importance of the problem from humane as well as scientific standpoints, and honestly and unselfishly seeks a solution of the problem, respectfully urge and request that the Secretary of the Treasury undertake an inquiry into all the facts and conditions surround-

ing the indictment of Dr. Ernest S. Bishop, and if the findings show that he is absolutely and wholly innocent of wrong doing, which we, his friends and fellow workers in medicine, are certain will be the outcome, take such steps as will cause the immediate quashing of his indictment, thereby making it possible not only for Dr. Bishop to take up the scientific study and teaching of a problem, to the solution of which he has already contributed so much, but also, the resumption of research and investigation of this serious disease by honest, conscientious and law abiding physicians all over the country, with all that this will mean to the practice of medicine, a sorely afflicted class of sufferers, and the whole American people.

*Finally Be It Resolved*, That a copy of these resolutions be forwarded to the President of the United States and the Secretary of the Treasury.

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CONGRESSIONAL INVESTIGATION OF  
THE NARCOTIC SITUATION ASKED  
FOR BY AMERICAN MEDICAL  
EDITORS ASSOCIATION

RESOLUTIONS UNANIMOUSLY ADOPTED BY THE  
AMERICAN MEDICAL EDITORS ASSOCIATION,  
OCTOBER 17, 1922, IN CONVENTION AT  
CLEVELAND, OHIO.

WHEREAS, As a consequence of ignorant, misguided, mistaken and all to frequently questionable administration of the Harrison Anti-Narcotic Act, honest and law-abiding physicians are being persecuted, hounded and subjected to unjust and ill founded suspicion and accusation, and

WHEREAS, Because of the foregoing, not only have many honest medical men been led by the danger to their reputations, professional standing, and ability to live and support their dependents, to refuse to minister to the medical needs of those requiring the legitimate use of narcotic drugs, but all scientific study and investigation of narcotic addiction have been suppressed, prevented and made impossible for those competent to understand and pursue such studies and investigations, and which thoughtful physicians recognize as one of the most impressive needs in scientific medicine, and

WHEREAS, The sick and suffering are not only being denied proper medical care and treatment, but are being harassed, terrorized and caused un-



told suffering and distress, while the quacks, charlatans, specific-cure promoters and illicit dealers are preying upon their hopes, fears and imperative medical needs, and

WHEREAS, The fundamental requirement of efficient medical practice, as well as all progress in scientific medicine, always has been—and always will be—the privilege or right of honorable, conscientious and self respecting physicians to minister to the disease-stricken and suffering, and to practice their profession without interference or dictation from lay administrators, who are essentially unfitted by their lack of medical knowledge, or experience to interpret or comprehend medical problems, or to regulate or restrict accepted methods of treating disease, and

WHEREAS, It is the consensus of opinion of the great majority of thoughtful medical men that while the original and fundamental purposes of the Harrison Anti-Narcotic Act are commendable and deserving of support, and the results obtained in the early years of its rational execution promised real and substantial benefits, during the past few years much or all of the foregoing have been lost by a most regrettable change and perversion of administrative policies and methods which have resulted from and been aided and supported by propaganda of a character warranting the gravest question, if not suspicion of the underlying motives;

Therefore, *be it Resolved*, By the American Medical Editors Association in convention assembled that this organization hereby approves House Resolution No. 258 providing for a select committee of 15 to inquire into the subject of narcotic addiction in the United States; the personnel of this committee to include all doctors who are now Members of the House of Representatives, and

*Resolved*, second, That this Association heartily indorses the position taken by Hon. Lester D. Volk, the propounder of Resolution No. 258, which position he has so ably and admirably sustained in a speech delivered in the House of Representatives on January 13, 1922, and

*Resolved*, third, That this Association extends to the Hon. Lester D. Volk its sincere appreciation for his capable and faithful efforts in behalf of honest medical practice, and assures him its utmost support to the end that a full and comprehensive scientific investigation of the entire

narcotic situation may be had and the greatest possible benefits accrue for the sick and suffering, the honest physicians of the land, and the public at large, and

*Resolved*, fourth, That a copy of these resolutions be sent to the Senators and Representatives in Congress and that they be requested not only to consider the possibility of conditions arising in their own families that may require the exercise of medical judgment untrammelled by lay administrative dicta, but to use their best efforts to bring about the adoption of the resolution presented by Hon. Lester D. Volk.

The American Medical Editors Association,  
In Convention Cleveland, Ohio,  
October 17, 1922

Note: A real Congressional investigation of the narcotic problem may help to clear up the real issues behind this whole mess, such as,—

1. Perverted and unscientific and illegal administration and interpretation of the Harrison Act.
2. Suppression of medical and scientific work and education by which the narcotic situation might be remedied and controlled.
3. False and misleading announcement and propaganda upon which present interpretation and policy find their excuse and upon which the present situation was built and developed.
4. Suspicion of the motives of those behind such promotion and propaganda, including those in medical and lay officialdom.

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RESOLUTION ADOPTED BY THE NATIONAL ASSOCIATION OF RETAIL DRUGGISTS AT THE 24th ANNUAL CONVENTION, DETROIT, SEPTEMBER 28, 1922

WHEREAS, The subject of narcotic drug addiction representatives in the American Drug Trade Conference, have been asked to co-operate with a committee of the Council on Health and Public Instruction of the American Medical Association and representatives of the Narcotic Drug Control League of New York, in the drafting of a Model State Narcotic Law, and

WHEREAS, The subject of narcotic drug addiction and the treatment of addicts is one upon which physicians of the country are divided,

Therefore *be it Resolved*: That the National Association of Retail Druggists postpone action upon any suggested Model State Narcotic Law, pending

a comprehensive, unbiased and fearless investigation of the narcotic drug situation.

INCLUDING THE PRESENT BUREAUCRATIC METHOD OF ADMINISTERING THE HARRISON NARCOTIC LAW  
RESOLUTION ADOPTED BY THE NEW YORK PHARMACEUTICAL CONFERENCE

At a Regular Meeting Held on the Evening of October 13th, in New York City.

(The New York Pharmaceutical Conference is a delegate body representing twenty local pharmaceutical associations in New York City and vicinity.)

*Be It Resolved*, That the N. Y. Pharmaceutical Conference hereby expresses its disapproval of the effort recently made by the committee on narcotic drugs of the Council on Health and Public Instruction of the American Medical Association to secure pharmaceutical endorsement of a so-called "model" State narcotic law while so many problems relating to the medical treatment of drug addiction are in dispute, and strongly opposes the adoption of any "model" narcotic law, pending a thorough investigation of the entire narcotic drug situation, including the present bureaucratic method of administering the Harrison Law.

Note: The above is a remarkable presentation of the real facts in the narcotic situation. It presents data of record which cannot be impugned. Why did the facts have to be told first by a druggists' journal? Why have the medical journals of the country kept us in ignorance of these things until the subject matter spread over the entire country and a druggists' journal had to expose the facts in order to save the profession and the public from the menace?

HAVE HIGH EDUCATIONAL STANDARDS  
BECOME A DANGER?

JUST WHAT IS THE GOAL THE MEDICAL PROFESSION IS  
SEEKING?

ARE WE LOSING SIGHT OF EVERYDAY NEEDS OF EVERYDAY  
PEOPLE?

THE FUNCTION OF THE PHYSICIAN IS TO TREAT PEOPLE  
*People are getting heartily tired of being sent from specialist to specialist, diagnosed and pawed over galore, and no real treatment administered.*

*Patients should be considered as something more than scientific problems. After all, the patient is a human being, even as you and I. No matter what the developments of medical science, the work of the medical profession still is and always will be to treat humans, whether to prevent disease or to cure or to manage it. To so immerse students in scientific tech-*

*nicalities and to develop such an ultra-scientific zeal that they lose interest in the human beings for whom the science has been designed, is a case of the tail wagging the dog with a vengeance. A new emphasis [intelligently adapted to modern developments] of old truths is needed, and badly needed. And the longer neglected, the worse the need is going to become.*

The *Literary Digest* has reproduced from a religious publication an article that contends that clergymen in the denominations that exact high educational standards are trained beyond their congregations and are unfitted to serve successfully, or with happiness to themselves, except in big city churches; and the article draws a parallel with the medical profession, showing that advocates of peculiar dogmas, such as the "holy rollers," are thus gaining entrance into communities, just as are chiropractic and other peculiar cults in medicine, in both instances to the detriment of the people who are unable to find trained physicians willing to reside with them, or preachers who understand their needs.

The Article Goes on to Say:

"The good old 'family doctor,' who knew little of modern medical science but a great deal of common home remedies and usually a great deal of common horse sense, who always heretofore grew up in such communities and remained there to take adequate care of its medical needs, is fast passing out of existence. Such men are not able to meet the high tests now exacted for medical practice. And the young doctors who have spent many years in preparing themselves to meet these new medical requirements simply cannot be persuaded to go back and live and work in such environments. Even if the fees could be made large enough to make such a practice profitable, the long ugly drives over all kinds of roads, and the kinds of folks and homes to which they would have to minister would soon become so distasteful that no amount of money could hold most of them there. The consequence is that there is a most serious shortage of doctors in many such sections, and an actual suffering for medical attention in many places—and there is a tendency toward almost prohibitive prices in some communities. . . .

"Unless our medical associations devise some plan of admitting to the profession the kind of men who can serve and will serve such communities—serve them just as they now are and will be for a generation to come—and unless the various denominations do likewise for the ministry, a most grievous injustice will be worked increasingly against these unfortunate communities. The *Herald* is heartily sympathetic with the religious and medical leaders who are agitating for better trained men in their professions; but there rests upon these leaders a moral obligation to recognize the fact that a uniform rule will not do and that our ministerial groups and our medical associations must find

some practical way to meet the imperative needs of this complex situation."

### How We View It

Several physicians have spoken to us about this article and they are far from accord over it. There is, however, quite a general agreement in opposition to such elaborate pre-medical courses, to overburdening the medical curriculum with needless studies, and to unnecessarily severe requirements by state boards of examiners. Some physicians think that the post-graduate hospital requirements are unwise and fit the young doctor for city and hospital work only, not for general practice. In other words, the young doctor is spoiled in the hospital. Others stress the lack of reciprocity as working against locating in new places. Three physicians who have sons in medical schools complained rather bitterly about conditions.

We have been back on a visit to the school from which we graduated years ago. Remembering the hard benches and the very plain environments of the then lecture halls and laboratories, and how sumptuous we regarded the "New Library Building," we were astonished to find these substantial buildings all torn down to make way for a thousand-bed, fireproof hospital and other "marble halls" of beauty, fitted for rich men's sons to inhabit. The new "New Library Building" is very much finer than the state capitol thirty miles away; the "Alumni Hall" is a sumptuous structure; the millionaires of New York City have few club houses superior to those now at the University; a residence hall for law students and covering four city blocks has been provided for, and to "meet the crying need" for the proper place to practice football in winter time a tremendous structure over 300 feet long is in process of erection. Such are the times. But, when we asked what the graduating class in the medical school proposed doing, we were proudly told that all but two had "positions." These two were, presumably, going into medical practice because they had not "landed positions."

We also visited a theological seminary with which we were familiar years ago. Here, too, every brick had been torn down to make way for a replica of an old English castle; and nearly the whole graduating class there had "positions" and very few wanted pastorates.

As there has been a great cry about the need for rural hospitals, and one has recently been provided for by a rich man, we looked into that matter and found the architects busy planning *marble and mahogany* features galore, *hoping* to get the money after a while to erect *sufficient* wards.

### Spoiled

Now what is an old fellow—a mere doctor—to think? Everywhere it is sumptuous surroundings for "people of taste" and, of course, of wealth. A young fellow from a small town enters medical school, finds himself in *luxurious environments*, and is promptly *spoiled* for a life in the average town or rural com-

munity. This is *not* good. As it impresses us, it is not the so-called backward communities—usually not so backward after all—but the *materialistic and wealth-seeking tendencies of the age* that are spoiling medical and other professional students for an *average life in the average environment*. There is nothing in the medical studies themselves that will spoil any man or render him unfit for average professional work, no difference how high the educational standards may be. It is the *false standard of living*, not the educational standard, that is at fault. The Roman Catholic Church educates its priesthood far better than most Protestant denominations do with their ministers; but the candidate for the priesthood lives an abstemious life of hard discipline and training, and we do not hear in that church of priests who are utterly unhappy and unsuccessful except in a city parish. It is folly to say that average people need half-baked doctors or preachers.

### THE PRACTICAL SIDE

Nevertheless, the merely academic side in professional training is often over-stressed, too much attention being paid to pure science and too little to *applied science*. This is *markedly* the case in medicine. The graduate of a Class C medical school has often become *distinguished* because he had *real stuff* in him and *worked hard* after graduation. And we can educate a Class A graduate into *innocuous desuetude*, who then *stagnates* and *never amounts to much* as a *practitioner*.

Our standards are too *academic and theoretical*. As a *real test of fitness* a state board examination amounts to little; and yet *one of the main functions* of a medical school today is preparing its students to pass state boards.

There is sometimes a lot of *bluff* in education. We knew a young man required to pass off two years of Greek in a written examination. He had never even studied the Greek alphabet, but by means of a short by-mail course he passed the examination. Another by-mail student passed the Bar examination, and he soon became attorney-general of a western state. Another man wanted credentials in a very practical avocation with a theoretical foundation that some class as a profession and others as a business. He had a wealth of book lore and theory on it, but never did a stroke of practical work in that line; and he got the certificate, making over 90 per cent on his examination papers. Yet, *practical* men who have spent *years in that work* and who could walk a *dozen circles* around him in *actually doing things* would have trouble making 50 per cent in that same examination.

It is up to the man. When we see *man after man succeeding* in technical work purely on the basis of *home or by-mail study*, we are compelled to view education very much in its personal relationship *instead of its pedagogic one*. In medicine *especially*, it is *doing things* that count, and if our Class A schools were relieved of the folly of preparing students for



state boards instead of for practice we would have better graduates.

#### CAN'T BE DONE

The modern idea is that a finished doctor can be made in school and hospital. Gentlemen, it can't be done. The old preceptor system was possessed of advantages from which we could still profit. There is no occasion whatever for lowering medical standards for the ambitious man to attain to; but it is not necessary to exact that no one may practice until after he attains to the *maximum* of them. While with our preceptor, before entering medical school at all, we put up medicines, did surgical dressings, attended to certain routine treatments, and even took entire charge of minor cases at the bedside.

There is a *great fault in our way of doing things*, for the young graduate of a Class A school, with a hospital year after graduation, is more apt to *cease study and stagnate* thereafter than is the man who knows he is not "finished" and *keeps up reading and study*. There is no law preventing any "one-horse doctor" from becoming a *master clinician in due time*; but there *ought to be* a law compelling the cocky Class A man to keep up to his "one-horse" competitor, who is apt to go ahead of him *within five years*, speaking clinically.

As a matter of fact, many of the "good old family doctors" had frightful mortality records; they were picturesque but far from efficient. It would be a crime on society to go back to their way of doing things. Farmers would not go back to the way their fathers managed their farms, and they do not want doctors who are "back numbers." Farmers are driving to the city today because they appreciate modern medicine and go there to get it—and they pay for it, too.

#### HUMAN BEINGS

Let us not blame the so-called "backward communities" more than is necessary; they are judged far too superficially. There are large sections of our cities *infinitely more backward* than are the rural sections. Yet the ignorant foreigner in the city wants to be attended by the "Professor" and he appreciates modern medicine. Any man who thinks the good old American stock in the country is longing for the return of "Good Ol' Doc" is *mistaken*. On the other hand, both town and country is getting *heartily tired* of being sent from specialist to specialist, diagnosed and pawed over galore, and no real treatment administered.

Patients should be considered as *something more than scientific problems*. After all, the patient is a *human being*, even as you and I. No matter what the developments of medical science, the work of the medical profession still is, and *always will be* to *treat humans*, whether to prevent disease or to cure or to manage it. To so immerse students in scientific technicalities and to develop such an *ultra-scientific* zeal that they *lose interest in the human beings* for whom the science has been *designed*, is a case of the

*tail wagging the dog* with a vengeance. A new emphasis (intelligently adapted to modern developments) of old truths is needed, and *badly needed*. And the longer neglected, the *worse the need is going to become*.

As to preachers of high educational standards that the journal quoted by *The Digest* mourns over, the trouble with most of them is that they *can't preach*, despite their educations. They were taught how to study and lecture, but not to *preach*. And the *finicky* young doctor who is *too high bred* to practice in the country *can't doctor*. The people know it, and he finds it out sooner or later if he gets up against the real job of being a country doctor.

#### BACK TO FUNDAMENTALS

The way to mend this condition is to compel every professor in a medical school, every member of a state board of examiners, every *theoretical pedagogue* in the *foundations*, and every agitator for *marble and mahogany hospitals*, to be thrown heels over head into a real country practice for six months. What a turnover there would be when they got back to the cities! It would be hard on a lot of sick people in the country, but a splendid thing for the professors and board members. This is not frivolous; it points a big moral.

Let's get back to *sanity*, not by reducing medical standards, but by making *doctors* up to *clinical* standards, not *mere academic* ones.

—American Physician, Oct., 1922.

#### EUROPEAN DOCTORS RECEIVE LESS THAN ONE PER CENT OF THEIR FORMER SALARY

At the October meeting of the Cincinnati Branch of the American Pharmaceutical Association, Dr. S. P. Cramer, a Cincinnati physician, gave a very interesting account of the economic conditions existing in Great Britain and in Germany, where he spent some months last summer, and spoke of the disastrous effect of the decline in the value of marks on the cultured classes.

The university professors are receiving nominally the same salary but are receiving in dollars less than one per cent of their former salary. Since the prime necessities of life, food and raiment have to be paid for in dollars they are in a very bad way. Every professor has been compelled to undertake some additional work in order to keep body and soul together; the physicians are engaged in practice, the professors of engineering are helping in manufacturing establishments and some of the literary and philosophical professors are peddling matches and doing all kinds of menial labor. The situation appears almost hopeless. The fees which a dentist charged for extracting a tooth was two cents American money or ten marks in German money.

The wealthy who had fixed incomes dependent upon the income from real estate suffer a great

deal because they have not been permitted to increase rentals in a ratio sufficient to compensate for the decline in marks. Berlin, one of the greatest cities, now looks shabby and dilapidated.

### THE REGULATION OF THERAPEUTIC PROCEDURE BY STATUTE

The precedent established by the Volstead Act in restricting medical practice should, if physicians value their therapeutic liberty, be met with a protest which will command attention. Today it is alcohol, tomorrow it may be any remedy which falls under the ban. We suggest that the physicians of the country write to their Senators and Representatives in Congress in terms which will leave no doubt with respect to their attitude concerning the regulation of therapeutic procedure by Statute.

Charles L. Dana, M.D.  
Samuel A. Brown, M.D.  
Sam'l W. Lambert, M.D.  
Robert A. Hatcher, M.D.  
Herman M. Biggs, M.D.  
Harlow Brooks, M.D.  
Geo. B. Wallace, M.D.  
Walter B. James, M.D.  
Warren Coleman, M.D.  
New York.

(From the *Journal of the American Medical Association*, June 4, 1921)

### WASHINGTON PHYSICIANS ENTER POLITICS

For the first time in the state of Washington the medical profession, acting as an organization, has made its influence felt in a political campaign. In the primary election campaign, which closed September 12, that influence was the deciding factor in a dozen contests for seats in the legislature and not the least of the achievements was the nomination of three physicians as representatives. Since they were nominated by the dominant party in the several districts, their election is reasonably certain.

The medical profession, acting through the Public Health League, did not concern itself with partisan successes or the division of spoils, but made the conservation of public health the only issue. Legislative records were scanned and candidates known to hold unsound views on health questions were vigorously opposed. The determination of the medical profession to have a voice in shaping and directing the public health policies of the state introduced a new element in Washington politics. The politicians are deeply impressed and are now courteously asking what the Public Health League wants in the way of legislative action.

At the last session of the legislature the medical profession had no representative in the lower house. This fact has been brought to the attention of the doctors upon many occasions since 1921 and a concerted effort was made to induce doctors to offer themselves as candidates. As a result of this agi-

tation five physicians filed their declarations of candidacy.

In various districts laymen who declared their devotion to the cause of conserving the public health were elected, while others known to have unsatisfactory records or unsound views were defeated. In Tacoma one osteopathic practitioner, who had been identified with various antivaccination and antihealth campaigns and who announced that he was standing on a platform of "medical freedom," was beaten for reelection.

The selection of twenty-two senators and ninety-seven members of the lower house is incidental to a public health campaign being conducted by the League. The principal issue just now is the fight against Referendum Measure 13, an act passed by the last legislature through Christian Science influence. The vote on that measure will be taken as a guide for future legislatures in handling similar laws, hence it is highly important to the health forces of the state that the public possesses full information. If it is decisively beaten, as the physicians confidently expect it to be, it is unlikely that another attempt will be made to handicap the work of the health authorities in the public schools. With this measure beaten and with a friendly legislature, the way is opened to bring order out of the somewhat muddled laws governing the practice of the healing art in the state of Washington. Heartened by the success in the primary campaign, the Public Health League is going ahead with the preparation of a constructive and comprehensive legislative program.

*Northwest Medicine, October, 1922.*

### ANTIVIVISECTIONISTS EMPLOY NEW TACTICS IN CALIFORNIA

The antivivisectionists are at it again. They have an initiative measure on the ballot this fall under which you may not perform an experiment on an animal, even under anesthetic or without pain, if the purpose is scientific investigation, but you may cut an animal open, mutilate or burn it, painfully and without anesthetic, if the purpose is convenience in farming. The law expressly says both of these things, in direct language. Animals may be caught alive, in steel traps, or shot and wounded, for sport or profit; they may be killed for food, painfully; they may be branded with a hot iron, to identify them as property, or dehorned, gelded, spayed, castrated or caponized, without anesthetic, for convenience or luxury, and there is no law against it. In fact, these farming operations are expressly permitted, in this language, by the law. But the surgeon with a delicate and perhaps new operation to perform may not perfect his technique by doing it first on an animal, even under complete anesthesia. No drug may be tested by administering it to an animal first. No serum, to protect children against diphtheria, or even to protect other animals against anthrax or hog cholera, can be manufactured or tested.

A human being bitten by a mad dog must die

of hydrophobia since the only known treatment involves inflicting a needle-prick on a rabbit, and this is forbidden. The botulinus investigations, without which the California fruit-canning industry would be ruined, are forbidden. It is forbidden to investigate the poisoning of orchard pests or their extermination by their natural enemies, or even make experimental investigation of the diseases of plants. Present methods of combating anthrax and hog cholera are made penal offenses, and the treatment of diphtheria, lockjaw and meningitis by the methods approved by modern science are forbidden. The teaching of medicine, physiology and biology in the universities of California is made impossible. And a thousand other things equally absurd.

And all this, not to protect animals from pain—since animal experimentation is prohibited even when there is no pain, while the infliction of pain is permitted, if it is for other purposes—but to prevent scientific investigation.

The thing is almost unthinkable preposterous. No such law exists or has ever been seriously proposed in any civilized country. And yet there will be a real crusade for it, by people who think they are sincere, in California.—*Chester Rowell, in S. F. Bulletin.—California State Journal of Medicine, September.*

#### BOYLSTON MEDICAL PRIZES

These prizes, which are open to public competition, are offered for the best dissertation on questions in medical science proposed by the Boylston Medical Committee.

At the annual meeting held in Boston in 1920 a prize of three hundred dollars was awarded to an essay entitled "Acute Inflammation of the Nose, Pharynx and Tonsils," by Mr. Stuart Mudd of St. Louis.

For 1922 there is offered a prize of five hundred dollars and the Boylston Prize Medal, for the best dissertation on the results of original research in medicine, the subject to be chosen by the writer. The Boylston Prize Medal will be added to the money prize only in case the winning essay shows special originality in the investigations detailed.

Dissertations entered for this prize must be in the hands of the secretary, Reid Hunt, M. D., Harvard Medical School, Boston, Mass., on or before February 1, 1923.

In awarding these prizes, preference will be given to dissertations which exhibit original work, but if no dissertation is considered worthy of a prize, the award may be withheld.

Each dissertation must bear, in place of the author's name, some sentence or device, and must be accompanied by a sealed packet, bearing the same sentence or device, and containing the author's name and residence within.

*Any clew by which the authorship of a dissertation is made known to the Committee will debar such dissertation from competition.*

Dissertations must be printed or typewritten, and their pages must be bound in book form.

All unsuccessful dissertations are deposited with the secretary, from whom they may be obtained, with the sealed packet unopened, if called for within one year after they have been received.

By an order adopted in 1826, the secretary was directed to publish annually the following votes:

1. That the Board does not consider itself as approving the doctrines contained in any of the dissertations to which premiums may be adjudged.

2. That, in case of publication of a successful dissertation, the author be considered as bound to print the above vote in connection therewith.

The Boylston Medical Committee is appointed by the president and Fellows of Harvard College, and consists of the following physicians:

William T. Porter, M. D., Edward H. Nichols, M. D., Reid Hunt, M. D., Henry A. Christian, M. D., John Warren, M. D.

The address of the Secretary of the Boylston Medical Committee is Reid Hunt, M. D., Harvard Medical School, Boston, Mass.

#### DO WE NEED A NEW NARCOTIC LAW?

WHAT THE HARRISON NARCOTIC LAW HAS ACCOMPLISHED,  
WHAT IT HAS FAILED TO DO AND WHY THERE SHOULD  
BE AN INVESTIGATION OF THE NARCOTIC  
SITUATION IN THE U. S.

#### BUREAUCRATIC AUTOCRACY

The Harrison Narcotic Law, formulated with the knowledge and assistance of physicians, pharmacists, jurists, police officials and others, was enacted by the federal government on December 17, 1914, and has been vigorously enforced by a veritable army of national, State and local officials during more than seven years. Let us see what has been accomplished in that time. Let us see what has resulted from the enactment of this measure and its administration at the hands of the Treasury Department.

#### ENFORCING THE LAW

1. An enormous number of commissioners, deputy-commissioners, directors, assistant directors, inspectors, sub-inspectors, agents and other enforcement officers have been employed by the federal government at a tremendous cost to the taxpayers of the country.

2. This army of government employees has vigorously enforced the law, at least those provisions of it which relate to the handling of narcotic drugs by registered pharmacists and physicians.

3. The right of physicians and pharmacists to prescribe and dispense narcotic drugs has been curtailed in a manner which, a few years ago, would have been thought impossible while regulations issued by the Treasury Department have entirely denied the right of physicians to treat narcotic-addiction disease except in a manner outlined by a lay commissioner. (So far have law enforcement officials gone in presuming to solve a purely medical problem.)

4. Physicians and pharmacists have been compelled



to register with the government; pay special taxes (so-called license fees) for the privilege of prescribing and dispensing narcotic drugs; prepare inventories of their narcotic stocks; send to the commissioner or his agents periodical reports of the amounts of narcotics used; submit their stocks and records to frequent inspection by government agents; use special order forms for narcotic drugs; employ special prescription blanks; keep themselves informed of frequent, and oft-times contradictory, "decisions" of the commissioner; and otherwise submit to almost endless and usually unnecessarily burdensome restrictions.

5. Hundreds of violators of the law have been prosecuted in the courts, various rulings have been handed down and at no time has there been any indication of any laxity in awarding the punishment and penalties provided by the statute.

And what has been the result of all this activity?

1. The best medical and administrative evidence available goes to show that the number of drug users actually has increased during the seven years that the law has been in force and that more narcotic drugs are misused in this country now than ever before. There probably are more than a million and a half narcotic drug addicts in the United States at the present time and the situation arising from the existence of so large a number of narcotic drug users has created a menace to the physical and moral welfare of the nation.

2. Through the operation of the Harrison Law innocent addicts have been denied a legitimate source of supply and have been driven to illicit dealers in such vast numbers that the underworld traffic has assumed enormous proportions. "The elusive underworld 'pedlar,' well supplied with drugs, now exacts his pound of flesh from his helpless victims, and tempts guileless 'prospects' with free samples for the sake of future profits. Thus, without vitally affecting the actual evil, we have added criminality to what was formerly simply immorality."

3. The interpretation and enforcement of the Harrison Law, according to statements which form part of the preamble of a resolution recently introduced in the House of Representatives by the Honorable Lester D. Volk calling for an investigation of the narcotic addiction situation in the United States, has fallen into the hands of a few individuals and good evidence now points to the existence of "an organized conspiracy on the part of certain administrators and physicians to drive narcotic-drug addicts into established sanatoria purporting to treat and cure narcotic-drug addiction." In other words, evidence produced by Dr. Volk indicates that *the federal law is being interpreted and enforced in a manner calculated to further the private interests of a group of individuals and not to check the illicit use of narcotic drugs*. This conspiracy, according to the above mentioned preamble, "has taken the course of rulings, provisions, and regulations by the federal prohibition commissioner at Washington, acting for the Internal Revenue Department of the Treasury Department in

the matter of narcotic control, and by the passage of statutes by various state legislatures and the regulation of narcotic-drug distribution by various boards of health of various municipalities of the United States, which are contrary to existing medical bibliography, clinical and pathological research, and the best medical and lay experience in the handling of addict patients."

4. Dr. Volk and other authorities declare that "known medical facts have been ignored in the administration of the Harrison narcotic law," and that the issuance of certain rules and regulations have made it impossible for the medical profession to treat narcotic-drug addicts without fear of arrest, indictment and conviction, or of interference with and persecution by the criminal authorities. Such patient, conscientious and able authorities on the subject of narcotic addiction as Dr. Ernest S. Bishop, of New York, have been indicted and so prevented from going ahead with needed research work and from securing evidence which might tend to disprove the theories of the individuals who according to Dr. Volk, largely control the issuance of our Treasury Decisions. Many physicians and pharmacists decline to prescribe or dispense narcotic drugs to addicts simply because of their fear of violating some regulation which has been issued under the Harrison Law.

5. The administration of the Harrison Law, instead of curbing illicit traffic in narcotics and curtailing their use by unauthorized persons "has resulted in an increase in smuggling, peddling, and illegal distribution of opium and its derivatives, and exaggeration of conditions in the underworld resulting from the existence of a criminal type of addicts; and such administration has resulted also in a virtual monopoly in the treatment of narcotic addict patients by privately owned and operated sanatoria promoting certain routine formulas and cures for narcotic addiction."

6. Finally, the continued evasion of facts, according to Dr. Volk, and the failure of the enforcement officials to secure the advice of competent medical authorities whose opinions differ from those held by the small group which has been acting in an advisory capacity to the commissioner—coupled with the issuance of Treasury decisions which have a tendency "to substitute for the provisions of the act arbitrary administrative opinions . . . which amount to practically a repeal and nullification of the law itself"—is "rapidly increasing the criminal class of addicts, spreading addiction among the curious, encouraging smuggling, and driving hundreds of thousands of post operative and post war addicts of every walk of life to doubtful cures conducted by charlatans and fakers."

#### AS ADMINISTERED

It is clear that the Harrison Narcotic Law, as it has been administered, has failed of its purpose. It has not checked the illicit use of narcotic drugs, it has not brought us any nearer to a solution of the narcotic problem. It has been said that if we could "make administration more intelligent and competent" there would be no drug problem and that if administration is "steered and influenced by panacea promoters and

'drug remedy' sellers and reform and publicity and uplift hounds" there can never be an end to the matter. Representative Volk, in his speech in Congress in support of House resolution No. 258, calling for an investigation of the narcotic situation, declared that a self-interested group of individuals practically control the administration of the Harrison Law, certainly the charges that he brings should be sifted, surely no one honestly interested in curbing narcotic drug addiction can declare himself opposed to "a fearless and unbiased investigation" of the narcotic drug situation in the United States.

#### AIDING ILLICIT TRAFFIC

Article 1 of the Harrison Law states in no uncertain terms that restrictions in regard to the dispensing of narcotics shall not apply to "a registered physician, dentist, veterinary surgeon, or other practitioner in the course of his professional practice, and where said drugs are dispensed or administered to the patient for legitimate medical purposes and a record kept as required by this act of the drugs so dispensed, administered, distributed or given away," but the law has been so interpreted and administered that reputable physicians no longer are permitted to prescribe narcotic drugs for the treatment of addiction disease except as directed by the prohibition commissioner and so many and conflicting regulations have been issued that physicians and pharmacists alike in many sections of the country no longer dare to handle narcotics, as such, in any form. And in the meantime, dependable medical authorities declare and eminent jurists and others admit that narcotic addiction develops physical conditions which require skillful medical treatment to correct—conditions over which the addict has no control.

Cornelius F. Collins, Judge of the Court of Special Sessions of the City of New York, an eminent jurist, who has devoted years of study to the problem of narcotic addiction, said recently at a meeting of the National Police Conference: "When you place too great a restriction on the doctors, when you make the doctor believe that all addicts are criminals, you are doing wrong. When you make the doctor believe that he is losing standing or dignity in his profession by treating them, you are doing wrong. Officers for the enforcement of the law have lost their heads at times, and some who hold high positions in the drug enforcement bureaus. I recently heard what I consider a most foolish statement on the part of a big official, namely, that the number of doctors in New York treating drug addicts today was by official efforts reduced to five. The doctors threw up their hands because they were annoyed so much. *And discouraging the doctor, preventing the honest practitioner from treating the addict who may come to him, has brought about some of the serious conditions under which we suffer.*

"I told you the doctor did generally treat the addict in 1917. The next year we put through our official prescription blank and established a State Commission. It started to make regulations. The Board of

Health persuaded them to make some regulations, and they placed restrictions around the doctors that made them stop practicing. I do not mean to criticize them. They exercised their best opinion and best judgment, but my theory was followed out again, that *as soon as the doctors were stopped practicing medicine in this connection and stopped treating the addicts, then came the underworld peddlers and then came in the rat of distribution—we call them rats sometimes—and all the underworld terrors that we feared.*"

#### PRIVATELY OWNED "CURES"

Read also what Judge Collins had to say concerning laws and regulations which, whether deliberately or not, have the effect of forcing addicts into privately owned institutions. "The Whitney, 1918, Law worked well in many respects, but the doctors became discouraged because of regulations, and this year (1921) they sprung something on us that was awful. *One bill contemplated that all drug addicts be considered suffering from a pestilential and a communicable disease, and another that all doctors be forbidden to prescribe, and limited to administer only. The bills were intended to force into institutions all drug addicts.* If we used every institution we had in the State of New York we would not have room for them. These bills were intended to institutionalize all. It was urged, how could doctors adequately administer the drug? The addict receives drug three or four times a day, and it was thus utterly impracticable to administer. In the next place, the addict could not afford to pay for it. *I am decidedly suspicious, without making any direct accusations, that in some instances the men behind such bills have personal financial interests; interests in sanitariums that they want to promote, and there is a chain of sanitariums throughout the country. When a lawyer, who has been a prosecutor, looks at this situation and finds throughout the various States the same argument is used, couched in language indicating the same authorship, as to dispensaries, to legislatures, and the same man appears, he commences to ask himself, who is financing such advocacy propaganda? who is behind it? and one cannot help being suspicious that in a large number of instances bills like the one I have referred to are fostered, not for the well-being of society, but are promoted by the financial interests which some private sanitariums have—and those private sanitariums charge outrageous prices.* If such laws went into effect, we would not have hospitals enough to accommodate the number of addicts. We would have panics. Addicts could not afford to pay the prices that institutions would demand."

#### ADDICTION DISEASE

It is not within the province of pharmacists to decide whether or not opiate addiction is a disease, but certainly they are justified in concluding that it may well be and certainly such statements as the following, issued by the American Public Health Association, should have the consideration of our enforcement officials.

Narcotic drug addiction is a physical condition in which continued administration of narcotic drugs,

from whatever cause or origin and in whatever type or class of individuals, has set up within the body a mechanism of protection against the toxic action of narcotic drugs. This mechanism of protection constitutes the mechanism of addiction disease. A narcotic drug addict is an individual in whose body the continued administration of opiate drugs has established a physical reaction, or condition, or mechanism, or process which manifests itself in the production of definite and constant symptoms and signs and peculiar and characteristic phenomena, appearing inevitably upon the deprivation or material lessening in amount of the narcotic drug and capable of immediate and complete control only by further administration of the drug of the patient's addiction.

A definition along no other lines will include all who suffer from narcotic drug addiction. This symptomatology and the mechanism or process which produces it are the only common and characteristic attributes and possession of all narcotic addicts.

We would emphasize the fact that cocaine, alcohol, and other drugs of indulgence do not fall into this definition, and they and their problems of handling, treatment, and control are quite different and distinct from the matter of opiate addiction disease.

Similar definitions of addiction disease have been given by such authorities as George E. Petty, of Tennessee, and Drs. Ernest S. Bishop and the late C. F. J. Laase, of New York, based upon years of experimental, research and laboratory work.

#### AN INVESTIGATION NEEDED

More could be said to substantiate accusations brought by Dr. Volk in a recent speech in Congress in which he declared among other things that "as a substitute for open discussion of known medical facts there has been set up a propaganda for the incarceration of all drug users, their treatment by routine methods, and complete elimination of the family doctor . . . and to force all those addicted to the use of these drugs into hospitals exploiting questionable 'cures.'" Dr. Volk has placed the matter squarely up to Congress, House resolution No. 258 calls for a fearless and unbiased federal investigation of narcotic conditions in the United States, it is clear that such an investigation is needed. House resolution No. 258 should be endorsed by every state pharmaceutical association and copies of those endorsements should be forwarded at once to Dr. Volk at his office in the House of Representatives office building, Washington, D. C. Also, pharmacists should write personal letters to their senators and representatives urging support of the resolution. If the trouble is with the law, we should have a new one and, if the fault is in its administration, we should have administration along entirely new lines.

The following books, periodicals and other texts contain much valuable information on the subject of narcotic addiction and the administration of our federal narcotic law and have been freely consulted in the preparation of the above article.

**THE NARCOTIC DRUG PROBLEM.** By Ernest S. Bishop, M. D., F. A. C. P. The Macmillan Company, 1921. *American Medicine* characterizes this book as "One of the most

notable contributions to the subject that has thus far been published. As a pioneer in the study of narcotic drug addiction, Dr. Bishop is qualified by knowledge and experience, as are few other men in this country or Europe, to point out the true facts in regard to this affliction which has grown to such serious proportions in all civilized countries our own in particular."

**OPIATE ADDICTION. ITS HANDLING AND TREATMENT.** By Edward Huntington Williams, M. D. The Macmillan Company, 1922. The following review of this book is quoted from *Medical Record*. "This is a useful and very timely book and one that should be in the hands of every practitioner who has or is liable to have a patient suffering from drug addiction. The author is familiar with practically every phase of his subject, having devoted special study to it for many years, and is one of the few who can speak with authority. In the introduction the author re-relates the history of the Los Angeles and San Diego Narcotic Clinics, which accomplished a great deal of good during the short time they were in existence, and he urges a revival of them there and in other cities. Both the gradual reduction and the rapid withdrawal methods are described in detail, and many pitiful stories are told of the fiendish work of the drug peddler through whose agency the army of addicts is continually recruited. This is an important companion book to 'The Narcotic Drug Problem,' by E. S. Bishop, and the two together cover well the entire subject, so far as it is known today, of the drug disease and its treatment."

**Narcotic Drug Addiction.** A speech delivered by the Honorable Lester D. Volk, of New York, in the House of Representatives on Friday, January 13, 1922, in support of House resolution No. 258, which calls for an investigation of the narcotic situation in the United States.

Various published speeches, reports and papers by Judge Cornelius F. Collins, Court of Special Sessions, New York City; Dr. C. E. Terry, as chairman of the committee on habit-forming drugs of the American Public Health Association; Dr. James F. Rooney, as chairman of committee on legislation of the New York State Medical Society, and other items and editorials appearing in the *National Police Bulletin*, the *Illinois Medical Journal*, the *New York State Journal of Medicine*, the *Medical Record* and other well known medical publications.

*The Druggist Circular.*

#### THE NARCOTIC SITUATION IN THE U. S.

DOES ENFORCEMENT OF THE HARRISON LAW, AS INTERPRETED, CREATE NEW ADDICTS, AUGMENT ILLICIT TRAFFIC AND PREVENT MEDICAL STUDY OF DRUG ADDICTION PROBLEMS? WHY THERE IS NEED..... FOR AN INVESTIGATION OF THE WHOLE MATTER

LESTER D. VOLK, M.D.

Member of Congress from Tenth District, New York, N. Y.

[The Honorable Lester D. Volk, whose speech of January 13 on the subject of narcotic drug addiction was printed in abstract in the April issue of the *Druggist*, is one of the best informed men in Congress on the subject of opiate addiction. He is a physician and a lawyer and was for many years editor of the *Medical Economist*. In the following article he further explains his reasons for asking for an investigation of the narcotic drug situation in the United States, as is provided for in House resolution No. 258. The EDITOR.]

The passage of the Jones-Miller Bill to prohibit the importation and use of opium for other than medicinal purposes, has again directed the attention of the country to the importance of the narcotic problem.

What is the narcotic situation in the United States



today? It has developed upon the need of certain individuals for narcotic drugs. This need varies from the necessity of administering life saving medication over varying periods of medical and surgical emergency to the meeting of the therapeutic indications in the care and treatment of the established case of opiate addiction.

There are two fundamental issues:

(1) How can we best take care of the narcotic addicts that we have?

(2) How can we best prevent the making of more addicts?

#### COMPLEX THROUGH ADMINISTRATION

For twelve or fourteen years, first as physician, then as legislator, editor of a medical journal, and lawyer, I have watched and been in close contact with the phases through which the making and interpreting and administering of narcotic laws have passed in this country. From a fundamentally simple problem it has become more complex through manipulation by different and recurring promotions of the type which may be termed medico-political, commercial, uplift and reform. These, by intensive publicity and other drives, have attempted to put over special panaceas or formulas purporting to remedy the situation.

In the year 1918, based on the experience of the federal administrators up to that time, together with the findings of legislative investigating bodies in New York, as well as a coincident study by a committee of the judiciary of New York State, and with the approval of the medical and allied professions, the problems seemed definitely settled and a basis for the constructive remedial measures finally established. All this, however, was interrupted by our entrance into the World War. At about the same time the control over administration passed into the hands of the newly-created prohibition department and the influences mentioned in my speech of January 13, 1922, on "Narcotic Drug Addiction."

Cocaine and alcohol have no part in the narcotic drug problem. Their inclusion in the past has served only to complicate and obscure the real issues and problems. It has no scientific basis.

#### SO-CALLED "CURES"

Advertised and exploited panaceas contributing to the prosperity of specific treatments, remedies, and so called "cures," have constituted the most important evil of the whole situation. They have created the drug problem today through their incompetency and propaganda and have been the real obstacle to true medical progress.

Failing in repeated efforts at cure, the unfortunate addict has been compelled to continue his opiate.

The idea that narcotic addicts in general are degenerate and criminal is a promoted fallacy. The most reliable estimates place the criminal or degenerate type of addicts from twenty to ten per cent. About the same percentage would be found in all other medical conditions. In other words, the real practical problem of the narcotic drug situation which is absolutely neglected today is the humane and scientific

care and, so far as possible, cure of from eighty to ninety per cent of those afflicted with this condition, who are decent and respected in the community.

*Ignore this and you create enforced patrons and customers for the criminal vendors of the underworld and increase smuggling and corruption of officials by creating opportunity in an immensely profitable enterprise.*

This is the real basis for the present situation:

How can we best prevent more addicts from being made? The traffic whose commercial extension is making most addicts today was created as an industry by the closure or obstruction of legitimate medical channels of study and treatment and education. Wise and sane administration and interpretation of laws aided by truly educational publicity has at times succeeded in interrupting and checking this traffic. The sensational publicity periodically given to morbid aspects of the ten to twenty per cent of addicts who are admittedly criminal or defective individuals, has served only to advertise and renew and enlarge the business of the underworld exploiter and the quack.

*Cut out the profit for the underworld and criminal traffic and you make no new addicts. Where there is no profit there is no market for the wares of the smuggler and peddler, and no incentive for them to extend their business.*

#### A MEDICAL PROBLEM

Encourage honest attention to the needs of the innocent afflicted made so by unavoidable or necessary medication, open up the avenues of reliable information and progress and education for the medical profession and you take out of the clutches of the underworld eighty to ninety per cent of its possible patronage, and practically all of its profit. For its real profit does not come from the much advertised criminal type of addict, but from the neglected honest and self-supporting persons addicted, forced into its channels of exploitation and extortion.

The exploitation of human misery by the charlatan and criminal underworld with their associates must be stopped by every available means at our disposal. Ten to twenty per cent are addicts of a vicious or degenerate or criminal type. *These are a police problem.* There is no profit in their exploitation. They herd together. They are self-eliminating. They are only of interest as a police or sociological problem.

The real profit which keeps alive the underworld smuggling and peddling comes from the exploitation of honest and decent and often illustrious people driven into their clutches through enforced abandonment and neglect of their needs.

*We must eliminate the terrorism by administrative subordinates and get back to a condition of sanity and normalcy with a due regard and appreciation for the practical end desired. We must eliminate the promoters of specific cures and panaceas, drive out political and commercial exploiters, and encourage the medical workers and students to once more take up the study of narcotic drug addiction.*

"Ambulatory treatment," "hospitalization," "satis-

faction of craving," and the handful of other phrases which have been cleverly used as propagandic slogans distracting from the real work and the issues, in the light of available medical and sociological facts, must be relegated to the history of the past.

The object of an investigation is to release and make available to all a really competent basis for the remedy of existing conditions and the prevention of their further extension. Until we have something which makes all possible information accessible and available and the true facts of this diseased condition recognized, there is no hope for sane legislation, competent administration or any medical or scientific remedy for its prevention and treatment.

The solution of the drug problem today is the common-sense application of existing information.

Make possible the employment of existing facilities and knowledge, encourage the widespread further study and work among those fitted and equipped for such endeavor, i. e., the great mass of honest practicing physicians, hospitals and scientific institutions, and you have gone a long way toward the settlement of this complicated medical condition. If there had been one-tenth as much publicity for facts, as there was for spectacular morbid details and for catchy slogans and for false panaceas, there would be no drug problem today.

Let the police take care of the ten to twenty per cent criminal or degenerate addicts. Let the medical profession take care of the honest addicted persons. Get the only profession that can solve medical problems and care for the sick back into its legitimate and proper sphere without danger of oppressive administrative interference and over-regulation and you at once eliminate the profit from illegitimate channels of exploitation and solve the problem of smuggling and peddling.

Smuggling and peddling follow no line nor laws of legislative creation. They follow the inevitable laws of demand and supply.

*Whether the Jones-Miller Bill will prove a constructive piece of legislation or an instrument for the further extension of the evils now existing will depend entirely upon whether those who are to interpret and administer and apply it have full available medical information to guide them in the exercise of their judgment and regulatory powers.—The Druggists Circular, June, 1922.*

### THE PUTITOFFS

"My friend, have you heard of the town of Yawn,

On the banks of the River Slow,  
Where blooms the Waitawhile flower fair,  
And the Sometimeorother scents the air,  
And the soft Goeasys grow?

"It lies in the valley of Whatstheuse,

In the province of Letitslide,  
That tired feeling is native there—  
It's the home of the listless Idon'tcare,  
Where the Putitoffs abide."

—E. B. V.

### THE COUNTRY DOCTOR—A VANISHING SPECIES

THERE CAN BE NO RELIEF EFFECTED BY CURTAILING  
THE TRAINING FOR STUDENTS WHO WISH TO  
PRACTICE LIMITED MEDICINE

F. D. SMITH, M.D.

KASSON, MINN.

After reading, in current medical journals, various comments on the growing scarcity of physicians in rural communities, and noting that the lay press is taking up the cry, the writer was led to consider the matter as one worth investigating, and for some time has been interested in ascertaining whether such a condition really exists.

There seems to be quite a number of small villages, in the sparsely settled parts of this state and the Dakotas, that since the war have lost their resident physicians; but, on closer inquiry, there is the usual reason found that the work is being done by physicians in towns not far away, and that the telephone and the automobile combine to make the success of a new doctor in the neglected town quite uncertain.

The solution of the problem is then necessarily bound up with the economic questions of the times—a process of evolution; first, the small town, then the city, and later the metropolis. The virgin soil is first subdued, and towns spring up like the planted corn, each hopeful that it will become the great center of life and industry. That only a few really grow beyond their original townsite and that more decay, is the inevitable result; then come the drought and the weeds, the thinning out of the rural population, and the lure of the large city, and the influence of wartime activity leading to overcrowding the cities and to financial depression in the rural community.

The physician located in one of the newer towns in the West finds that the population of his surrounding territory becomes thinned out until not 25 per cent of his old families are left, and the few who are left are so impoverished that collections are very poor. Such conditions are not the rule, but from personal experience in the Dakotas the writer knows they are far too frequent.

Another, and by no means the least, of all reasons is the tendency of modern medical teaching to create the specialist and the clinic. The result is:

1. The public has been taught to turn directly to the clinic or the specialist without first seeking the advice of the once revered "family physician."

2. The local doctor is expected to give equally accurate and scientific opinions as the group, and do it all himself without the facilities and advantages of the latter.

3. Economic conditions in the small town prohibit the general practitioner from surrounding himself with proper equipment and helps to enable him to give this kind of service; and it remains

for him to dig it out himself, alone and unheralded.

The surgeon or the consultant in the group little knows the responsibility usually carried by the country doctor, unless he has been one himself.

The successful man in the isolated small town has to meet any and all emergencies alone, do a version with an untrained old woman for assistant, a tracheotomy or a difficult ligation by the light of a smoky lamp in a ten by twelve shack on the prairie. His time is never his own, to say nothing of time for sleep.

The student of today is usually financially able to pursue his course of study with all the luxurious conveniences of modern life at his command; he never has had to accustom himself to the inconveniences still existing in the small town—and who can blame him if he chooses to fit himself for a specialty?

The work to be done in a country practice is not now, nor will it ever be, anything but drudgery, and the hardships, while less than those of a generation ago, are still greater than the milk-fed product of our twentieth century educational system wishes to tackle.

Another reason why the medical student of today does not care for the rural experience, is that, no matter what pecuniary or other advantage he may derive from country practice, should he later try to establish himself in a city, he finds that all his experience does not get proper recognition from his city colleagues that is comparable to having had a two or three years' assistantship in a group or clinic; and without this last-named sine qua non he is only tolerated as a good fellow; but where did he receive his training?

He knows that many of the men now recognized as leaders in the profession today are graduates of this same school of hard knocks, with a three-year medical school training, often with no internship. But today the whole world has changed; what was good then is taboo now. The respected "family physician" is fast becoming a dodo; and the "country practitioner" shares his practice with the city "clinic" a hundred miles away, and the honor of the title "Doctor" with the youthful ex-barber or soda-fountain clerk who has come to town as an osteopath.

The efforts of modern higher education, the standardization of hospitals, etc., are all laudable attempts to attain higher ideals.

Likewise the American College of Surgeons and kindred professional organizations have primarily unselfish motives, but why exclude the man who has covered the same course and trod the same weary road, but alone and unapplauded in some tank town on the prairie?

The man who enters private practice today must decide which path he will follow, for there is no more chance to change from a small town doctor to a surgeon in the city, for there is no credit given for solitary labor. Should he choose a promising country town, he soon finds to his sorrow that he

must follow the lone trail like his aged and less carefully trained competitor; the territory is too small to support a group or a hospital, or, as is more than likely, the other men simply won't group, let alone treat him as an equal in counsel. All these things tend to turn the embryonic medic toward the special training camp, and the large city.

The trend of the times is still toward the larger cities, and so has the flow of medical talent gravitated, until the crowd already on the ground "views with alarm," to use a political phrase, the numbers of surgeons and embryo otolaryngologists, G. U.'s, and pediatricists, chiros, osteos, et al, and raises the cry,—"more country doctors."

Will they please rise and explain why they left the haystack themselves, and forsook the humble old one hoss shay of the hick town for the limousine or the straphanger's palsy?

Why are most of the "practices for sale" ads in the medical journals from men in towns of from five to fifteen hundred population? Why should the Governor of our great and prosperous state see fit to decry this lamentable shortage of physicians in the small town when "the deer peepl" do not seem to be aware of it? Does he see in the evident reflection in his remarks on the efficiency of the country doctor the salve that pays for the moral support of the group men, the clinic, or the cults?

That large cities will continue to grow is granted, but without the support of a healthy and prosperous rural population their continued prosperity must be questioned; likewise the grouping of medical talent therein must be limited.

The question is altogether one of supply and demand; when the small town offers a greater inducement to the young physician than the overcrowded practice in the city, there will be no lack of medical care for the country districts; when the farmer receives a better return for his labor, more people will stay on the farm, preferring the contentment of country life to the now alluring jazz and doubtful pay-roll of the city. When the silk shirt is discarded for the denim and overalls, the country districts will furnish the means to properly care for their sick.

If specialization has reached its zenith, then let the great American colleges prepare physicians, as well trained as science can do it, for service where there is greatest need.

For the medical colleges it will become, not only a problem of training more and better doctors, but of arranging fellowships to which all are eligible, both the recent interne, and the man who has, after leaving college, done his work among the proletariat and in the backwoods.

Today the road is barred to the latter class, to the preference of the over-trained but inexperienced product of the modern clinic.

There can be no relief effected by curtailing the training for students who wish to practice limited medicine, for that would defeat its purpose at the start. The non-medical cults are doing this kind of



work, and are not satisfied with themselves. Already in several states they are clamoring at the doors of the legislatures for recognition, and for permission to do surgery, give anesthetics, and in every way simulate the trained medical man. They are placing their hordes of "graduates" in even the smaller towns until they have come to displace some of the confidence once given only to the "family physician."

There will always remain the emergency and bedside work in the rural communities that someone will have to do; but the physician who undertakes this must be well trained and have the co-operation of his grouped colleagues, or there will be still fewer men willing to attempt it.

Unless means are found for the establishment of small but well-equipped hospitals in some accessible point in every county, and unless these hospitals are accessible to all the qualified and reputable physicians living in the county, there will be no improvement in rural practice.

This plan necessarily involves the education of the public to the idea of guaranteeing financial support; and, as is well known, the small privately owned hospital is not a financial success; to quote Hamlet, "There's the rub."

Unless the problem is attacked intelligently and some solution is reached by the medical profession, the condition will be seized upon by some clever genius and used as an argument for State medicine.

What the rural physicians needs is to wake up, forget petty jealousies, and perfect an organization that will establish co-operation in isolated districts, stimulate the lagging spirit in the local medical society, and cease being the unthanked advance agent of the privately controlled clinic.

The public is ever to be the judge, and when we as their servants display too much indecision, either from modesty or a lack of confidence, we cannot blame anyone but ourselves. Let the "general practitioner" assume all the dignity he is entitled to, take all the credit due him for service rendered, giving his professional confrère credit also, but not all the glory, and the people will continue to look to him for advice and medical care as in days gone by.

That the field for profitable practice in general medicine has become narrowed is an evident fact, and the question remains as yet unsolved; however, if we expect to get anywhere, we must row, and not be satisfied to drift.

If rural places are left vacant very long, the non-medical fraternity will soon fill them, their principal training being apparently along the line of specialized salesmanship, and each is a specialist after a fashion.

The average country physician today is as well or better equipped for anything in his line than the general practitioner in the city, but because of one-sided ethics and lack of hospital facilities his talent deteriorates from disuse.

We resent the imputation that we are either in-

different to our full responsibility or are in a measure incompetent; and, as there seems to be an overcrowded condition in the large cities among medical men, let the man who has not yet a following there, swallow his pride and come out to some nice modern little village with a golf club, but no hospital, and teach us some of the secrets of urban success. He will miss the support of the laboratory, and a few other attributes of city life, but though every village has its "Main Street" they are not all as bad as "Gopher Prairie." If he has the right stuff in him he will find appreciation of his talent. And, finally, when he is all through he perhaps will have accumulated a competency for his family, and perhaps the everlasting gratitude of his friends and neighbors; at least he will have the personal satisfaction of having lived a useful life, instead of deteriorating from inactivity.—*Journal Lancet*, October, 1922.

#### ON THE SYNDROMES OF PLURIGLANDULAR ENDOCRINE INSUFFICIENCY

H. CLAUDE AND M. SOURDEL (*Le Journal Médical Français*, 1921, No. 11)

Rather than a disease the pluriglandular syndrome is a state, sometimes connected with disturbances that date back to childhood or to congenital influences, sometimes following an acute or chronic illness, sometimes without apparent cause. Heredity has an important part in its etiology, whether because the parents have presented similar disturbances or whether through the intervention of syphilis, tuberculosis, alcoholism or other intoxications. Such a heredity establishes a condition of insufficient resistance on which the syndrome becomes implanted. Among predisposing causes figure all the infective maladies and especially syphilis and tuberculosis. For a certain length of time the associated lesions of the endocrine glands are well borne, no doubt because of an equilibrium established between the functions of synergic and antagonistic glands. But a slight physiological or pathological disturbance may end the compensation.

The description of the syndrome is essentially symptomatic. Those cases in which, besides well marked signs of lesion in a single gland, the symptoms of concomitant dysfunction in others are seen, are properly included in the clinical picture associated with the predominant gland and are not to be considered as pluriglandular syndromes.

One type of these unfortunate presents a senile aspect. The outset is slow, often marked only by progressive general debility. In some the hair falls out, others gradually lose appetite and sexual desire. Often they have anorexia, vomiting, emaciation disguised by slight cutaneous edema. During this period the skin is dry, rough, muddy, desquamates freely, wrinkled plentifully and deeply, the neck is lean and wrinkled. The teeth decay and fall

out in part and the alveolar borders atrophy. The hair becomes dry, often prematurely white or falls out readily and in its place appears a fine down, the eyebrows thin out, the cheeks bear only isolated hairs, the mustache becomes thin at the center and reduced at the ends to coarse hairs irregularly placed. The body skin often shows patches of hyperpigmentation alongside depigmentation.

The genitals are hypotrophic. The pubis is smooth and presents a feminine aspect with fatty infiltration; the penis is small, flaccid, the scrotum drooping, the testicles the size of a bean, soft to pressure. The breasts are usually normal, the muscles atrophic and shapeless, the whole body appears slouchy, without decided contour. To the asthenia are added modifications of character, a neurasthenic state. The voice becomes falsetto, the speech slow and monotonous. There is lack of appetite and polydipsia. Diarrhea frequently increases the emaciation characteristic of this disease. In women the picture is essentially the same, the course slower. Sometimes the characteristic signs appear after pregnancy in skin and hair, the secondary sexual marks disappear and menstruation ceases by degrees.

The evolution of the syndrome is slow, interrupted frequently by periods of cessation or of improvement, sometimes steadily progressive. Death occurs from intensification of the casual malady, from intercurrent disease or from a final state resembling Addison's disease.

The forms of precocious senility are found clinically resulting from pluriglandular lesions: the commonest exhibits especially disturbances of pigmentation and trophic skin changes, in another form the signs of acromegaly are joined with these, in the third the classical adiposogenital syndrome. Genital dysfunction and the prodromic period are common to all forms.

The most important remedy is thyroid extract, because the thyroid exercises a regulative action upon the entire endocrine system. Joined with it should be the glandular extracts suited to counteract the various individual symptoms.

#### PSALM OF LIFE?

Lives of great men oft remind us,  
An honest man don't stand a chance,  
Tho' hard we work there grow behind us,  
Larger patches on our pants.

So let us all be up and doing,  
Bring your mite, however small,  
Lest when winds of Autumn strike us,  
We shall have no pants at all.

Lives of mormons all remind us,  
We can make our wives sublime  
And departing, leave behind us,  
Six or seven, eight or nine.

## Correspondence

### HEALTH DEPARTMENTS ESSENTIALLY CAREFULLY ORGANIZED AND HIGHLY SPECIALIZED FORM OF FADDISM

PRaise FOR THE ILLINOIS MEDICAL JOURNAL

DR. A. B. MAGNUS

HARVARD MEDICAL SCHOOL  
BOSTON, MASS.

Boston, October 5, 1922.

To the Editor:

My contact with your journal as a reader is of comparatively short duration. I have spent as many years with the *A. M. A. Journal* as I have months with the *ILLINOIS MEDICAL*. *Subtracting the special academic features of the former, the latter proved more productive and of greater interest.*

Not so overwhelmingly enraged over the familiar "Public Welfare" whim and incidentally over what there is in it in the way of personal gain, I rather sporadically cite occasions in eyeing the *spectacular faddist in company with the uplifter pursuing the horde of a disorganized and routed army of men, with whom I have affiliation professionally.*

For a while it seemed a distressing sight and although re-echoing simultaneously a spirit of revolt and throbbing mind of challenge—*Halt! the dreamy state of helplessness began to fade only with the first copy of your Journal mailed to me. My gaze at once perceived that glaring spark, which is eventually to illumine the path to an impregnable frontier—the Medical Men.*

Now gone four months and having received no Journal, I have, nevertheless, maintained a watch over your *counterstrokes at the impostors and fads from the shelves of the library of Harvard Medical*. Permit me to say a few words in regard to what I think is a mild approach in your dealing with the Health Department.

With its fractional usefulness taken away, a *Health Department of today is essentially a carefully organized and highly specialized form of faddism*. This is true of the Departments in the leading cities and particularly so of the one in Chicago, where deductions were made from study and observations through personal contact.

Dr. Robertson in turning over his office to Dr.

Bundesen had publicly declared that the job in the Health Department is practically done; when anybody, as it were, could take care of the rest. *By stating so he undoubtedly sidetracked a political formula.* Commissioner Bundesen cannot sit there as a dummy. No administration with future ambitions could afford this. No political campaign is ever a sure gamble on purely remote "showings," and hence the recent doctrine of Commissioner Bundesen.

Particularly of interest and worthy of note is that the time at which this dictline was unfilled corresponds so closely with the outset of the influenza epidemic four years ago. Commissioner Bundesen apparently awaited the convincing hour that there would be no such sensational recurrence, at which time he let loose his dogma of threatening a community with the infamy of brothelry.

What effect the Commissioner's move will have is baffling. In Europe, where Bundesen's scheme is Ancient History, a negative attitude is maintained, as is well shown editorially—March 10, 1917, *Journal A. M. A.*, in the following: "Nowhere is any confidence placed in the regulation of prostitution and the inspection of prostitutes as a sanitary measure of importance against the venereal diseases."

One only needs to be in the contagious branch of the Health Department when a knowledge of most sources of spread of communicable diseases is to be had. *The Christian Scientist's* family, for instance, holds a very important place in this category. Why does not Commissioner Bundesen avail himself of time and opportunity by doing real work in a direction where not even a physician has the opportunity of practising preventive medicine? But to meddle there might prove distasteful to the powers higher up.

If not political, why tamper with venereal problems, which are well in hand by the physician at large? If anything, the Health Department's part in it will most assuredly prove to be detrimental, for there incompetency is the rule. And it is amazing how little knowledge the outside physician has concerning the composition and operations of a Health Department, to say nothing of the lay, who, blindly but well meaningly, subserve wholly in the sustenance of this gigantic political foreflush.

There are some good men in the Health Department, of course, but their usefulness—when

there—usually sinks into obscurity. First, because of the negligible remuneration, and secondly, a good medical man is, as a rule, seldom possessed of political qualifications. Lacking in these, he is underrated in the Department, thus absolving his would-be usefulness where it is needed most.

Dr. S. S. Goldwater, one time Health Commissioner of N. Y. C., parted with the Department rather prematurely. He, an intellect imbedded in honesty of purpose and endeavor, possessed of ever multiplying constructive force, of which use is being made in very remarkable silence, could not afford to sit there idly and waste his time manning the Vote-breeding Incubator.

In closing, I want to say that I regret that time does not permit, presently, of entering into as detailed an account as the desire and data available demand.

Please mail me the ILLINOIS MEDICAL JOURNAL at the address given below.

A. B. MAGNUS, M.D.

Harvard Medical School for Graduates.

P. S. Would ask you to feel that I am not in the least prejudiced in my contention. It only expresses a fraction of what I could relate and support had I the time to meet the subject half way.

I am presently occupied with other problems at Harvard but hope to come back at it again.

Very truly yours,

A. B. MAGNUS.

#### DEEP X-RAY THERAPY IN CANCER IN GERMANY

I arrived in Hamburg much later than I expected—early on June 7. The trip was rotten—ship small, crowded, a very motley crowd of highly undesirable people and beastly cold. I stayed over night in Hamburg, came on to Frankfurt. Here I had a strenuous time for a day. I went out to the University and found that no one could speak English. In my halting German I gave them to understand that I had for the Fortstellung kursus gekommen. Then they said that I must petition the Minister at Berlin for permission, and must also present my diploma for admission. Naturally I had no



diploma with me and I thought that all was lost. Then it occurred to me to go and see Prof. Dessauer personally, which I did. He received me very kindly, took me to lunch at his club, and fixed up everything so now it goes well. As to the work, etc. The course is magnificent. There is absolutely nothing comparable to it in America. With physical researches, Dessauer, who is a physicist, has put deep therapy upon an exact and highly scientific basis not reached in any other branch of medicine. There is no guess work; all technique is precisely and exactly pre-determined. We must have an electroscope, and need not have an ionto-quantimeter. Dessauer has a set of forty charts for determining the exact dose received in any part of the body, which I have obtained. The course so far is purely physical; very obtruse and difficult. Next Monday I go into the gynecological clinic for a course of study and observation of x-ray as applied to cancer and then into the surgical clinic. The results they are obtaining (and I see no reason why we cannot duplicate them) are far better than we had supposed. They are treating with colossal success, cancer everywhere, tuberculous joints, and many other things. My optimism and enthusiasm grow by the law of squares. What the future possibilities are none can say. Certainly this is the method of treatment for all malignancies, and will probably not be changed materially for years, but where will the development of apparatus stop? Dessauer has built, and is operating in his experimental laboratory, a transformer giving 500,000 volts on the secondary terminals, and he has also perfected (he thinks) a tube which will stand the discharge. He hopes to have his patents before July 1 and promises to show them to me. It seems that multiple transformers in series will be the future high-voltage machines. He is now building a 1,000,000 volt machine. The effect of such a machine or a 500,000-volt machine operating a suitable tube would be that of large quantities of radium, giving almost perfectly homogeneous rays. Probably only one field, or port of entry, will be necessary in the future. However, I believe that the results will not be much better—I don't see how they can be; they are wonderful now. So that is a bird's-eye of the work.

Perhaps you would like a remark or two on Germany. Living is not so cheap as reported but

is not as expensive as at home. There are very marked inconsistencies in prices. For example a hotel costs from 700 to 1,000 marks a day, not so cheap, a shirt costs 700 m. not so cheap. On the other hand a box seat at a magnificent opera costs 110 m. darned cheap, and a long taxi trip may run to 100 m. Dinner at a first-class restaurant costs about one dollar, but in a second-class place, (quite good) about twenty-five cents. Prices in our money are, in general, quite low, but in marks they are fierce. A glass of Munchner beer costs 24 m. But a ten hour railroad trip costs two dollars, 462 miles from Hamburg to Frankfurt. The people seem prosperous, the cafes are crowded, the theatres and opera play to standing room only, work is plentiful, and much building is going on. Yet a German workman gets only 100 m. a day and a suit of ordinary clothes costs from 3,000 m. to 10,000 m. They talk openly of another war in 1932, and are entirely unchastened. Those with whom I come in contact personally are polite, affable and agreeable, but the crowd is rude, and look scornfully at us, muttering "Amerikanishier." There are two prices for everything except meals—Deutcher and Auslander. Last Sunday another American and I went out to the Zoological gardens, price 10 m. for Germans, 30 m. for Auslander. Hotels have cards on the wall braenly displaying the double scale. A 20 per cent. tax and 20 per cent service charge is added to one's bill.

I will sail Aug. 11 and expect to arrive in Peoria about Aug. 25. Please give my greeting to all of our friends.

LOWELL S. GOIN, M. D.,

Institute fur Physikalische Grundlgen im Medizin,  
Universitat of Frankfurt,  
Frankfurt, A. M.

#### NO TIME TO ADOPT A "MODEL" NARCOTIC LAW

New York, October 5, 1922.

To the Editor:

I am enclosing herewith reprint of an editorial which will appear in the October issue of *The Druggists Circular*, together with a carbon copy of a resolution on the same subject adopted, at the request of the New York State Pharmaceutical Association, at the recent annual convention of the National Association of Retail Druggists.

Also a resolution by The New York Pharmaceutical Conference, October 18th.

I am also enclosing reprint of an article on the subject of a "model" State narcotic law which will make clear to you why the pharmacists of New York State do not want any "model" narcotic laws adopted at this time.

I hope that this material will be of interest to you.

Very truly yours,

CLYDE L. EDDY,

Managing Editor *The Druggists Circular*.

#### INFORMATION NEEDED—NOT A "MODEL" LAW

Pharmacists should be extremely cautious in adopting any Model State Narcotic Law at this time—in fact, so long as the American Pharmaceutical Association, the National Association of Retail Druggists and more than a dozen of the state societies have endorsed a resolution in Congress which declares that the narcotic situation is in a chaotic condition and which calls for a federal investigation of the whole matter, it seems the part of wisdom to withhold approval of any "model" law until some of the problems associated with addiction and its control are disposed of.

Narcotic drug addiction is, in fact, a medical problem, not a pharmaceutical one, and the American Medical Association has joined with the American Therapeutic Society and other medical organizations in asking for a congressional investigation preliminary to drafting any more laws on the subject. Pharmacists should be content to wait until such an investigation has been made.

"The constant use of narcotics, such as opium, its preparations and alkaloids, produce a condition in the human body which is beginning to be looked upon by physicians as a disease," says a recent report of a special investigating committee of the United States Treasury Department, while A. G. DuMez, after an exhaustive survey of the literature of addiction, said, in the *Journal of the American Medical Association* some months ago that medical authorities are in practical agreement that the following distressing, definitely pathological symptoms follow the withdrawal of the drug of addiction; "in general, there is restlessness and a sense of depression in the beginning," he said, "followed by yawning, sneezing, lacrimation, coughing, retching and vomiting. Later there is pain in the abdomen and lower extremities, diarrhea, profuse perspiration, tachycardia, marked asthenia and irregular pulse, the latter going from extremes of slowness to extremes of rapidity. There may be complete exhaustion and finally collapse, in some cases death." In the face of such statements as these will pharmacists presume to endorse provisions of a "model" law which, to conform with the opinions of a small group of physicians, may outline the medical treatment which

physicians are permitted to give their addicted patients? *Is the treatment of addiction a medical or a legislative problem and should any method of treatment be prescribed by law—at least until there is more agreement among physicians as to what such a course of treatment should include?*

As noted elsewhere in this issue, a committee of two pharmacists, one physician and two lawyers, is at work upon a Model State Narcotic Law. If this committee believes that the situation is so desperate that a "model" law should be drafted in advance of any comprehensive, legislative investigation of the matter, pharmacists are justified in asking upon what kind of evidence the bill is being drawn. Has the testimony brought out in the Whitney investigation in New York been placed before every member of the drafting committee? Has the committee studied the facts on addiction that have been compiled during the past two years by the committee on addictions of the American Public Health Association? Has the committee consulted with Dr. Lester D. Volk, sponsor for H. R. 258, which calls for an investigation of the narcotic drug situation in the United States? Has the advice been sought of such eminent authorities on the medical and sociological phases of addiction as Dr. C. E. Terry of the American Public Health Association; Dr. Jacob Diner, of the New York State Pharmaceutical Association, and perhaps the best informed man in the country on the effect of narcotic legislation on the practice of pharmacy in retail stores; Judge Cornelius F. Collins, of the New York State Magistrates' Association; Dr. James F. Rooney, of the New York State Medical Society, and others? *Unless all available evidence has been considered*, evidence opposed to as well as that favoring the opinions held by the members of the committee, pharmacists should withhold their approval of the committee's recommendations.

Hasty action should not be taken on whatever report this law drafting committee may submit. The problems connected with drug addiction are so serious and the issues at stake are so important to medicine and pharmacy alike that no proposed "model" law should be approved without submitting it to a legislative committee and the members of the profession in general and as a whole openly, where its provisions may be carefully gone over and considered in detail. In fact, it seems advisable to postpone action on any "model" narcotic law indefinitely, *pending solution of the many problems connected with the medical, administrative and sociological phases of addiction.*—Druggists' Circular, October, 1922.

#### NO TIME TO ADOPT A "MODEL" NARCOTIC LAW

WHY PHARMACEUTICAL INDORSEMENT OF "MODEL" STATE NARCOTIC LAW SHOULD BE POSTPONED PENDING A COMPREHENSIVE, UNBIASED AND FEARLESS INVESTIGATION OF THE ENTIRE NARCOTIC DRUG SITUATION IN THE UNITED STATES

On March 2, 1922, there was held in New York City a conference of a committee of the American

Medical Association with representatives of the American Drug Trade Conference, various unaffiliated pharmaceutical organizations, the American Veterinary Medical Association and the Narcotic Drug Control League. The meeting, presided over by Dr. Haven Emerson, was attended by twenty-one representatives of pharmaceutical associations. Medical and "reform" interests were represented by Dr. Thomas Stewart Blair and Dr. Alfred C. Prentice of the American Medical Association, and Stephen P. Anderton and Joseph P. Chamberlain, *vice-president and secretary, respectively, of the Narcotic Drug Control League, of which Sara Graham-Mulhall, one-time deputy narcotic commissioner of New York, is president.*

The purpose of the meeting, as announced by its chairman, was, "to see whether we can come to an agreement in respect to uniform state laws which shall supplement the Harrison Act in order that there may be unanimity of professional and trade co-operation back of the narcotic law." Various provisions suggested by the A. M. A. committee for inclusion in a model law were read and discussed by the pharmacists and others present. Among those provisions were some having to do with the treatment of drug addiction and these provisions were rejected by the pharmacists as being purely medical problems.

Later a committee of five was appointed by Dr. Emerson to draw up a model law. Pharmaceutical interests were represented on this committee by two members, James H. Beal and C. H. Waterbury; and the medical and reform interests by three, as follows: *Thomas S. Blair and Arthur D. Greenfield of the American Medical Association, and Joseph P. Chamberlain of the Narcotic League.*

#### A COUNCIL COMMITTEE ONLY

It may be well to note in passing that the committee of the American Medical Association, which called this conference, *was only a committee of the Council on Health and Public Instruction* of that body. The following excerpts from the *Journal* of the A. M. A. of January 14, 1922, is interesting in that it explains how this committee was created: "The secretary of the Council on Health and Public Instruction states that the minutes of the meeting of the council, held November 11, 1920, read: 'Dr. Cannon moved that the chair appoint a committee on the narcotic drug situation. Seconded by Dr. Emerson and carried. The chair appointed Dr. Haven Emerson, New York City, chairman; Dr. A. C. Prentice, New York City; Dr. George W. McCoy, United States Public Health Service; Dr. Thomas S. Blair, State Department of Health, Harrisburg, Pa.'"

Dr. Emerson's committee, therefore, *was a committee of the Council only and, while it may be the policy of the A. M. A. to appoint committees in this way, it does not seem a satisfactory means of securing a group of men representative of the whole of American Medicine.* Why were not representatives invited to the conference from the American Public Health Association, the American Therapeutic Society and other national medical organizations? Also, why were there

no representatives of magistrates' and other associations?

#### NO CONSENSUS OF OPINION

To hold a meeting of this kind *without extending invitations to organizations whose members hold opinions opposed to those held by Dr. Emerson's committee must inevitably lead even disinterested observers to wonder why this courtesy was not shown.* Surely, no serious attempt should be made to draft a model law without consulting everyone interested in such legislation. To confine the invitations to a few associations only and to *exclude persons whose opinions should be expressed at such a meeting as this might easily lead to the charge that the conference was "packed."*

How can pharmacists have confidence in the wisdom of the decisions of a committee which represents but one side of as controversial a question as that of narcotic drug addiction?

Furthermore, since this committee was appointed, and since the conference of March 2, the American Medical Association, *in convention assembled, has endorsed House of Representatives Resolution No. 258, which declares that the narcotic drug situation in the United States is in a chaotic condition, and which provides for a congressional investigation of the whole matter. Should this committee attempt to draft a Model Law while so many questions remain unsettled and until this investigation asked for by the American Medical Association has been accomplished?*

#### HISTORY OF NARCOTIC LEGISLATION

Whatever is done in regard to the adoption of a "model" law, pharmacists should commit themselves to nothing until they have given careful consideration to some of the outstanding facts connected with the history of narcotic legislation—especially in New York State.

Charles B. Towns, according to testimony given in the Whitney investigation in New York, began as long ago as 1902 or 1903 to treat drug addiction according to formulas which, modified somewhat, later became the well-known "Towns-Lambert Treatment." In 1909 an article by Dr. Alexander Lambert appeared in the *Journal* of the American Medical Association announcing the "Towns Treatment" to the medical profession.

In 1912 Mr. Towns began working for the enactment of a narcotic law in New York state. In December, 1916, he wrote, in the *Medical Review of Reviews*, "Four years ago I began, at my own expense, a legislative campaign here in New York State with a view to restricting the sale, traffic and administration of habit-forming drugs. . . . Then I introduced a bill into this state which was known as the Boylan law. . . ." In that way we learn from Mr. Towns himself that the Boylan law originated with him.

The Boylan law was passed in 1914 and the events of the period that followed are well known. Physicians were given to understand that they were not permitted to prescribe for narcotic drug addiction and many pharmacists declined to compound narcotic pre-



scriptions, even when they had reason to believe that they were legitimates, for fear of violating some arbitrary interpretation of the statute. Physicians and pharmacists alike were arrested for alleged violations of the law. *The illicit traffic grew by leaps and bounds.* Drug addicts were panic stricken. Ten per cent of the cases tried in the Court of Special Sessions of the City of New York were for violations of the Boylan law. Then the New York State Board of Magistrates secured the passage of some modifying clauses, and for a time conditions were less chaotic.

#### BEGINS WHITNEY INVESTIGATION

The next year, 1916, half a dozen narcotic bills were introduced in Albany—among them being another *Boylan measure, which was defeated.* At that time the legislature appointed the so-called *Whitney Committee to conduct a comprehensive and impartial investigation of the entire narcotic situation with the view to providing a satisfactory law for the state.* This committee, after a year's study, recommended the repeal of the *Boylan law*, even with its modifying clauses, and introduced a bill which was enacted in 1917 as the first *Whitney law.*

"By reason of that law and the encouragement of the doctor to practice his profession," said Judge Cornelius F. Collins of the Court of Special Sessions of the City of New York, in addressing the 1921 convention of the National Police Conference, "*peddling almost stopped immediately. . . . In the first Boylan law the doctors of New York thought they were forbidden to practice and peddling had an impetus such as it never had before.* If you can prevent peddling and underworld distribution of the drug, you do more than you do with regard to the stopping of the smuggling, because the markets that the smugglers find is the market of the underworld distributor of the drug. The peddler is the one that gives the market to the smuggler! Stop the peddler and you stop the smuggler!"

#### A COMMISSIONER CREATED

In 1918, after devoting two years of study to the problem of narcotic drug addiction, the Whitney Committee brought in a remarkably informative report and, also, a proposed law, which was enacted that year as the second *Whitney Law.* The new *Whitney Law* provided for triplicate prescription blanks, a concession to the police authorities of the State, and for the creation of a narcotic commissioner, this latter largely for the purpose of continuing study of the subject, to encourage research, and to insure sane handling of whatever problems might arise.

Commenting upon this measure, the *Medical Economist* of June, 1918, said editorially, "This law will prove a wise and efficient advance in the solution of the narcotic drug situation if it is wisely and efficiently administered. If it is not so administered, there are the gravest possibilities of a repetition of the 'reign of terror' which followed upon and was the result of the ignorant and incompetent interpretation and administration of the first New York narcotic law, the original *Boylan law.*"

"The new law places great powers in the hands of

the State Commissioner of Drug Control. These powers wisely and intelligently employed will constitute the greatest relief and help for the hitherto harassed physician and his addicted patients. These powers exercised by a man of one-sided vision or narrow experience, or of lack of appreciation of the complexities of the narcotic situation, will work great damage and cause incalculable suffering to thousands of innocent people."

#### WHAT HAPPENED

Senator Whitney was appointed deputy commissioner under Frank Richardson and, for some months, there was little complaint concerning the operation of the narcotic law. Then a new Governor was elected and shortly thereafter Walter R. Herrick, a New York lawyer, was appointed to succeed Mr. Richardson as commissioner. In June, 1919, Senator Whitney resigned as deputy. Miss Sara Graham-Mulhall had, in the meantime, been appointed deputy commissioner by Mr. Herrick.

*What happened next is history in New York State. Regulations were issued early in 1921 by Commissioner Herrick which required, among other things, that prescriptions calling for narcotic drugs in any quantity whatsoever must be written on official triplicate prescription blanks. Retail pharmacists declared that Miss Mulhall's inspectors entered their stores and demanded files of narcotic prescriptions which, according to the Federal law, must be kept as record for at least two years. There was a repetition of the "reign of terror" of the old Boylan law as predicted by the Medical Economist. After enduring this kind of interpretation and administration of the law for many troubled months the pharmacists and physicians of the State co-operated in a successful effort to have the law, and the office of the commissioner, abolished.*

Concerning the regulations issued by the commissioner, Judge Collins said to the National Police Conference, ". . . we . . . established a State commission. It started to make regulations. The Board of Health persuaded them to make some regulations, and they placed restrictions around the doctors that made them stop practicing . . . my theory was followed out again, that as soon as the doctors were stopped practicing medicine in this connection and stopped treating the addicts, then came the underworld peddlers . . . and all the underworld terrors that we feared." In a letter to the *Medical Record* in October, 1921, Judge Collins said, "The 'muddle' . . . is not due to failure of the statute, but to the enforcement of promulgated rules and regulations which were in some instances in their effect tantamount to repeal of the law and contrary to its intents and purposes."

#### THE COTILLO BILL

Even while the second *Whitney law* was in force, in 1920, a notable effort was made to secure the passage of a measure, the *Cotillo bill*, which embodied many of the objectionable features of the old *Boylan Law.* This bill, says the 1921 report of the legislative committee of the New York State Medical Society, ". . .

which had been in one form or another presented to the Legislature for seven or eight years, was withdrawn by its introducer after a hearing at which the Senator scathingly arraigned the persons who asked him to introduce it, and practically accused them of deceiving him as to the motives behind the bill."

An interesting account of the final hearing on this measure appeared in the *New York Evening World* of April 16, 1920, as follows:

#### ANTI-DRUG BILL, AIMED AT DOCTORS, GOES IN DISCARD

HEARING KILLS MEASURE FORBIDDING THEM TO USE  
MORPHINE OR TREAT ADDICTS

(Special from a Staff Correspondent of the  
*Evening World*)

ALBANY, April 16.—Senator A. Cotillo said today that he would not press for passage his bill prohibiting physicians from prescribing morphine for their patients and dispensing drugs and to commit drug addicts to institutions. The bill, with three others, one to increase the salary of the Secretary of the Narcotic Commission from \$3,500 to \$5,000, another to abolish the Commission, and a third to re-enact the penal laws of 1917 regarding the use of cocaine, were discussed before the Senate Judiciary Committee yesterday.

This was the third time a hearing had been called and the first time the Senators heard men who are undeniably narcotic experts of long experience call a spade a spade in the handling of the subject. At the hearing were representatives of the Magistrates' Association of New York City, medical men and district attorneys from New York counties. It was charged that the bill had been drawn in the interests of "private cure" sanitariums.

Senators Cotillo and George F. Thompson questioned the experts who appeared in favor of and against the measure. Mr. Cotillo said A. D. Greenfield, a lawyer of No. 52 Broadway, had requested him to introduce the bill, and Senator Thompson revealed the fact that the bill had been discussed at a conference at which was present Dr. E. Elliott Harris, Chairman of a Committee on Narcotic Addiction of the American Medical Association, of which Dr. Alexander Lambert is President.

#### HAD NEVER TREATED DRUG ADDICTS

Dr. Harris admitted he had never treated a drug addict and Dr. H. C. Hubbard, of the New York City Health Board, who also favored the proposed measure, said he had treated his first addict about a year ago. In reply to a question by Senator Thompson, he said that Dr. Lambert was at the conference at which the bill was drafted.

"Is Dr. Lambert interested in the Towns-Lambert Drug Cure and sanitarium of Central Park West?" asked Senator Thompson.

Dr. Hubbard replied he did not know, but that Dr. Lambert had written in behalf of the Towns treatment. He could not tell either whether the doctor

got a fee for the patients sent to the Towns institution.

"The enactment of this bill," declared the Senator, "would benefit private institutions and deprive doctors of the right to treat addicts. I believe that is the meat of the situation."

"This bill," said Dr. John P. Davin, of New York, "is drawn in the interest of the greatest drug cure promotion in America. The present bill originated last year with Alexander Lambert, President of the American Medical Association, who is associated with Charles B. Towns, the father and founder of drug laws in the United States."

District Attorney Francis Martin, of the Bronx, said he had often wondered if the attempts to prevent reputable physicians from treating addicts were not made for the purpose of driving the unfortunates into private sanitariums.

"Whoever proposed this law," he said, "must have had this in mind, as it eliminates the physician and permits the drug patient to go to a sanitarium where he can be treated without supervision and without narcotic limit."

#### MISS MULHALL TELLS OF COMMISSION'S WORK

Miss Sara Graham-Mulhall, First Deputy State Narcotic Commissioner, was one of those in favor of the bill, while she opposed the measure abolishing the Narcotics Commission.

Senator Cotillo showed Miss Mulhall had been connected with the Normyl Association, which advertised a specific or remedy for alcoholics and the drug habit. He read the following advertisement from the New York City Directory of 1917:

"How to conquer. Home, health and mental content are destroyed by alcoholism or the drug habit. Stop it. Use Normyl remedy and it will remove the craving. The Normyl remedy means it. The appetite is destroyed by this wonderfully simple, yet efficient, remedy. Home treatment. No exposure. The patient is absolutely restored to normal mental and physical strength. Many hundreds successfully treated here and in Great Britain, where the remedy has been used many years and is thoroughly endorsed by most eminent men. Write for particulars.

"The Normyl Association of the United States."

#### THE FEARON-SMITH BILLS

The next year, 1921, witnessed the abolishment of the narcotic commission with his power to issue rules and regulations and the second Whitney law as stated before. It also saw the introduction of another set of measures, two of them almost identical in purpose with the Boylan Law and the Cotillo bill. These bills were introduced under various names, the two Fearon-Smith bills being perhaps the least desirable of all.

Concerning the Fearon-Smith bills, Judge Collins said, again to the National Police Conference: ". . . this year they sprung something on us that was awful. One bill contemplated that all drug addicts be considered suffering from a pestilential and communicable disease, and another that all doctors be forbidden to prescribe, and limited to administer only. The

bills were intended to force into institutions all addicts.

*I am decidedly suspicious, without making any direct accusations, that in some instances the men behind such bills have personal financial interests; interests in sanitariums that they want to promote, and there is a chain of sanitariums throughout the country. When a lawyer who has been a prosecutor looks at this situation and finds throughout the various States the same argument is used, couched in language indicating the same authorship, as to dispensaries, to Legislature, and the same man appears, he commences to ask himself who is financing such advocacy propaganda? who is behind it? and one cannot help being suspicious that in a large number of instances bills like the one I have referred to are fostered not for the well-being of society, but are promoted by the financial interests which some private sanitariums have—and those private sanitariums charge outrageous prices. If such laws went into effect, we would not have hospitals enough to accommodate the number of addicts. We would have panics. Addicts could not afford to pay the prices that institutions would demand."*

The Fearon-Smith bills, vigorously opposed by pharmacists and physicians alike, were defeated.

#### NEW YORK WITHOUT A NARCOTIC LAW

And so, at the end of eight stormy years of narcotic legislation, New York State found itself without a law controlling the distribution of narcotic drugs—the plea of the pharmacists, at least, who opposed the Fearon-Smith bills last winter being that the State enact no more restrictive narcotic laws until there has been a thorough investigation of the entire narcotic drug situation in the United States, such as is provided for in House resolution No. 258—now indorsed by practically all of the largest medical, public health and pharmaceutical organizations in the country. That is the opinion of the legislative committee of the New York State Pharmaceutical Association, its members feeling that no law, "Model" or otherwise, *should be considered until the main problems relating to drug addiction have been disposed of.*

#### THE COTILLO BILL IN FEDERAL REGULATIONS

In May, 1921, the legislative committee of the New York State Medical Society declared that *a studied attempt was being made at that time to have the provisions of the New York Cotillo bill included in the laws of other States and that "an earnest effort is being prosecuted to have the regulations promulgated by the Federal Bureau having charge of the Federal Harrison Act to give that act the same force as this bill would have if it became law."*

It is now charged that the restrictive provisions of the Cotillo bill have been made a part of the Federal law through the promulgation of regulations issued on October 19, 1921, by the Prohibition Commissioner. These regulations outline the treatment which physicians are permitted to give in treating addiction cases.

House Resolution No. 259, introduced in Congress on January 4, 1922, directed the Secretary of the Treasury to inform the House upon what authority

*regulations had been issued which outlined the course which physicians were permitted to pursue in treating addiction. The following item, which appeared in the Journal of the A. M. A. of January 4, indicates that at least some of the restrictive features of the regulations were promulgated upon the advice of Dr. Emerson and his Council committee.*

(Note—The Secretary of the Council on Health and Public Instruction states that the minutes of the meeting of the Council, held November 11, 1920, read "Dr. Cannon moved that the chair appoint a committee on the narcotic drug situation. Seconded by Dr. Emerson and carried. The chair appointed Dr. Haven Emerson, New York City, chairman; Dr. A. C. Prentice, New York City; Dr. George W. McCoy, United States Public Health Service; Dr. Thomas S. Blair, State Department of Health, Harrisburg, Pa. Dr. Emerson moved that the committee be instructed to request the Commissioner of Internal Revenue to incorporate the provisions of the California law in the official ruling. Seconded by Dr. Rankin and carried."

This action of the Council possibly may be the basis for the statement made in the prohibition commissioner's ruling.—Ed.)

#### THE PRESENT SITUATION AND H. R. 258

Congressman Lester D. Volk, in a speech supporting H. R. 258, declared recently that: "The honest (physicians and their addicted patients) are being persecuted. The innocent are being hounded and harassed and exploited. The sick are being denied care and treatment. The quack and the charlatan and the specific cure promoter are thriving upon their false promises and the hopes and gullibilities of the desperate.

"Administration is being perverted and corrupted.

"The scientific and clinical work and research of men who have made an honest and able study of addiction is being ignored and blocked from recognition by propagandized unscientific and incompetent 'formularizations.'"

Serious charges, these, which pharmacists should be eager to have investigated before they commit themselves to any legislation on the subject of narcotic drug addiction.

House Resolution No. 258, now pending in the House of Representatives, declares, among other things, that there are upwards of two million narcotic drug addicts in the United States and that the situation arising from the existence of so many narcotic drug users has created a menace to the physical and moral welfare of the nation. It says, further, that the condition "has been complicated and aggravated by administration of existing narcotic laws" and that evidence goes to show the existence of "an organized conspiracy on the part of certain administrators and physicians to drive narcotic drug addicts into established sanitarium purporting to treat and cure narcotic drug addiction." It declares that *known medical facts have been ignored in interpreting the Federal narcotic law and says that the administration of Federal and State laws has resulted in an increase in smuggling, peddling and illegal distribution of opium and its derivatives. It*



*holds that new addicts are being created by the very laws that are intended to curb drug addiction and asks for a fearless and unbiased investigation of narcotic conditions in the United States.*

This resolution has the indorsement of the American Medical Association, the American Therapeutic Society, the American Public Health Association, many State and county medical societies, the American Pharmaceutical Association, and National Association of Retail Druggists, more than a dozen State pharmaceutical associations and numerous local medical and pharmaceutical societies.

Retail pharmacists, through official actions of their State and national associations, *have asked for information on the subject—not "model" laws, hastily drawn up by small, insufficiently representative committees.*

#### A TIME TO GO SLOW

It is a most inopportune time for any pharmaceutical association to consider the adoption of a model State narcotic law and common caution urges that *special and most particular consideration be given any bill which has the approval of persons who have, in the past, supported such measures as the Cotillo bill.* While it is altogether possible that a bill satisfactory to pharmacists might emanate from Dr. Haven Emerson, Dr. Alfred C. Prentice, Mr. Arthur D. Greenfield, Mr. Joseph P. Chamberlain and others who have advocated laws and legislative measures which pharmacists have opposed in the past, common sense directs that no hasty action be taken on any measure which they might submit at this time. *While their intentions may be beyond reproach, experience shows that their ideas of what constitutes a satisfactory narcotic law are not in accord with those of many pharmacists, physicians, jurists and others who have devoted years of careful study to the subject.*

If we are serious in our desire to draft a Model State Narcotic Law, let us call a more representative conference than the one of March 2 and extend invitations to physicians who hold views opposed to those of Dr. Emerson. If pharmacists wish to endorse a statute which prescribes the medical treatment of narcotic drug addicts, *let us at least hear from the physicians who honestly believe that all addicts do not respond to any method of treatment so far outlined by the regulations issued by the prohibition commissioner and who hold that the treatment of narcotic drug addiction still is too little understood to be arbitrarily defined by law.*

Let us extend our invitations to magistrates and others who are familiar with the sociological phases of addiction. *Let us call for the evidence brought forward in the Whitney investigation, let there be a conclave of the best medical opinion and the best legislative and judicial opinion in the country—otherwise there is little likelihood of there being drafted a measure to which American Pharmacy can afford to affix its stamp of approval.*

Without such an investigation of the situation (and it is provided for in House Resolution No. 258) it is doubtful if we can arrive at facts upon which to base

laws which will, at once, *take the innocent addict out of the hands of the illicit dealer; curtail illegitimate traffic in narcotic drugs; make it possible for the innocent addict to have the best available medical care; provide for the proper police surveillance of the criminal type of addict; and limit the activities of administrators to the letter of the law.*—Narcotic Law Resolutions adopted by *Druggists' Circular*, October, 1922.

#### CHIROPRACTIC ADVERTISING RIGHT UP TO DATE

Monmouth, Ill., Oct. 7, 1922.

*To The Editor:* By the way,—do you know that the Palmer School of Chiropractic has one of the best amateur broadcasting sets in the country;—that they broadcast radio programs several times daily,—have a large staff of paid entertainers;—a whole full time orchestra, and then about 3:15 P. M. each day, have a talk on the virtues of chiropractic and its superiority over all other known healing science? Only two days ago, I heard on my own radio outfit, an interesting (?) talk from there, entitled "The Master Engineer"—referring to the "Chiro" and comparing him to a master electrician, or mechanic. How they do score us.

Three evenings ago, for two hours they broadcasted what they called "an all nations program." Over twenty-five foreigners;—no two alike, addressed the thousands of radio-fans, each speaking three minutes in their native tongue on Chiropractic. Every third word at least, was either Palmer, or Chiropractic. It really sounded amusing to hear a Chinaman and an Arabian pronounce the word "Chiropractor."

I expect to see my old friend Congressman Graham within a few days, and see if there is any way the government can prevent the sending out of such "bunk" through the air. The Palmer school station has reached every state but three each night,—and many in the daytime, so you see that is really some advertising.

HAROLD M. CAMP, M. D.,  
Councilor 4th District.

#### THE INFLUENCE OF MUSIC UPON THE HUMAN BODY

EDWARD PODOLSKY  
BROOKLYN, N. Y.

*To The Editor:*

From very early times music has been recognized as a factor whose influence upon the human

body is profound. The truth of this statement is eloquently illustrated by the fact that the oldest Egyptian papyrus known to us contains reference to the influence of music on the human organism. In this papyrus, found at Kahum by Petrie in 1889, and which dates from 2500 B. C., an incantation in music occurs, which purports to influence a certain distemper of the human body.

The Greeks were particularly cognizant of the wonderful effects of music. The eminent men among them delighted in reciting incidents wherein this remarkable influence of music was strikingly illustrated. Martinus Capella asserted that fevers were speedily removed by song; and that the immortal physician Esculapius cured deafness by the sound of the trumpet. Plutarch loved to relate that Thelates, the Cretan, delivered the Lacedaemonians from pestilence by the sweetness of his lyre. The delightful Aulus Gellius was sure that sciatica was cured by gentle modulations, and Theophrastus maintained that the bites of serpents and other venomous reptiles were capable of being relieved by similar means. Aristoxenes was so enthusiastic over the beneficial power of music that he would have it introduced at every meal, inasmuch, said he, that its sublime symmetry restrained mental and physical excess.

The potency of music in the moral welfare of the people was well known to the Greeks. The legislatures of the Greek states utilized music as a method of government, and the philosophers and sages were the first to recognize the fact that it had a salutary influence on the prosperity and moral welfare of the people. It was indeed with no small amount of pride that Greek historians relate that music was a powerful regulator of national integrity. Terpander, it is said, restored a rebellious people to their allegiance through his melodies. Similarly, Tyrtæus aroused a whole army to action by the sound of his flute. Polybius, in speaking of a musical race of Arcadia, contrasted the gentleness of its manners with the cruelty of the Cynetes, who neglected the cultivation of music.

With the advent of major musical compositions, music as a beneficial influence, claimed the attention of serious investigators. Their en-

thusiasm, and the publicity given to their researches, claimed the public's imagination, and the employment of music as a medical agent became widespread. Thus we may find today in "*Magis Universalis Naturae et Artis*," a work dated 1657, bars of music that were supposed to cure persons bitten by a tarantula.

During the eighteenth and nineteenth centuries a remarkable group of investigators did much to acquaint the world with the wonderful part that music played in human welfare. Among them were Browne, Burette, Campbell, de Mairon, Brocklesby and Jean Desessarts. They left behind a remarkable series of records that eloquently testify to their researches.

De Mairon, in the "*History of the Royal Academy of Sciences*," held that music exerted its beneficial influence by communicating a series of vibrations to the organs of the human body which adjusted the nervous system to normal conditions. Doctor Burette, of Paris, said that music acted as a stimulant, giving rise to nervous and muscular irritation, causing physiological actions. Richard Browne, that worthy apothecary, said: "An allegro, by short, quick, and brisk impressions upon the auditory nerves, communicates to the mind a lively, pleasing sensation, fills the soul with joy and cheerful ideas, and surprisingly invigorates the motion of the spirits. On the contrary, the soft, languishing thrill and melodious strains of an adagio touch the nerves so finely, and inspire such ravishing sensations, such that the soul, by a sweet excess of harmony, is ready to dissolve in pleasure." Doctor Brocklesby relates: "The last thing I shall mention is taken from the Arabian, Abubethrus Rhayes, one of the best medical authors, in my esteem, that ever wrote. He commends musick to cheer the sinking spirits . . ." A little later, Doctor Brocklesby conducted a series of experiments on music. His subject was "a child not two years old, born of musical parents, who was one day remarkable for mirth and good humor upon hearing sprightly airs of musick; this gave occasion to the father and Mr. Stanley to try the effects of different measures, when they had raised the infant's spirits very high by these means. But as the chromatick and graver strains began, the child grew melancholy and sad, which temper was removed as soon as the pleasanter music was played. Thus, as I am informed, they could, solely by

this art, raise and allay joy and grief by turns in the infant's mind."

The influence of music upon the mental life of the individual is most remarkable. The genial Du Bois, long ago, was well aware of this fact when he said: "Silence and darkness do not tend to calm an agitated mind, but soft music has a fine effect." In the records of the Academy of Science at Paris, the case is mentioned of an illustrious musician who was attacked by a continuous delirium. The third day of his illness he asked if he might hear a little concert in his own room. Bernier's Cantata was sung. As soon as he heard the first notes, his countenance became calm, his eyes assumed a quiet expression, and the convulsions ceased altogether. He shed tears of pleasure and the fever left him during the concert; but as soon as the concert ceased he relapsed into his formed condition. After ten trials of the same treatment a complete cure was effected. Doctor Hector Chomet relates a case almost as remarkable as the foregoing one. A young musician of Provence, France, swayed by the passionate emotions inspired in him from witnessing the representation of the opera, "La Vestale," by Spontini, could not endure the idea of descending to our prosaic world on emerging from the heaven of poesy which had just been disclosed to him. He was so completely fascinated by this masterpiece that he thought that he had attained the maximum of happiness reserved for man on this earth, and on leaving the opera house, after witnessing the opera for the tenth time, blew out his brains.

One of the most remarkable institutions that made practical application of the curative power of music was the Guild of St. Cecilia, which towards the end of the last century and the beginning of this, organized curative concerts for hospitals and asylums, played selected music and usually employed muted violins.

Within recent times, music has received a great deal of attention from physiological investigators. Most notable of these are the researches of Drs. Hyde and Scalapino who conducted a series of experiments to determine the influence of music upon the blood stream. The pieces selected for this investigation were 1. Tschai-kowsky's death symphony, characterized by its tragic slow minor movements, 2. the Toreador's brilliant description of the bull fight from Carmen, and 3. The National Emblem, a stir-

ring rhythmical march by Sousa. The minor tones of Tschai-kowsky's symphony caused an increase in cardiac activity and action, but a fall in blood pressure was observed. The increased pulse rate and decreased blood pressure were probably the result of psychic or reflex inhibition of the vague nerve and vasomotor center. The bull fight from Carmen produced a different set of result. The after effect was increased systolic and pulse pressure and pulse rate, but decreased action current. It seems, therefore, that lively music has a stimulating effect upon the circulation by increasing the blood pressure and pulse rate while lessening the current action of the ventricular contraction. This change may be due to reflex action of the accelerator nerve or possibly inhibition of the vagus. Sousa's stirring march produced a slow pulse rate, a longer pause, and an increase of not only the systolic and pulse pressure, but also the action current of the ventricular contraction. It seems that this variety of music has its stimulating effect upon the vagus, and that this as well as the other two styles of music may have an influence on the system in other respects. It very likely affects digestion, secretion, muscle tone, and respiration.<sup>1</sup>

An interesting observation was made by Dr. Ewing Hunter, of Helensburgh, N. B., in 1893. He found that soft music successfully reduced high temperatures in several cases of fever, the greatest reduction obtained being two degrees from 101° to 99°. Dr. Mays has compared the effects of moderate quantities of major compositions to those provoked by a stimulant dose of strychnine or quinine, while minor compositions have been found to be depressing like the actions of a bromide.

Music undoubtedly plays an important part in human welfare and the growing recognition of this fact will aid in establishing in the future a closer understanding of the relation of music to human happiness.

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1. It might be interesting to note the fact that Samuel Hafenreffer, as early as 1640, observed the influence of music on the pulse and organs of secretion: "Monochordon, symbolico-biomaticum, abstrusissimum pulsum doctrinam ex harmonias musicis, delucide, figuris que oculariter demonstrans, de causis et prognosticis inde promulgandis fideliter instruens, et jacunde per medicam praxin resonans pulsatum."



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## Book Reviews

A MANUAL OF PHARMACOLOGY AND ITS APPLICATIONS TO THERAPEUTICS AND TOXICOLOGY. By Torald Sollmann, M.D., Professor of Pharmacology and Materia Medica in the School of Medicine of Western Reserve University, Cleveland. Second Edition, Entirely Reset. Octavo of 1066 pages. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, \$7.00 net.

This second edition is a great improvement over the first.

In this edition two sizes of types have been used throughout. This is done for the sake of convenience to the reader; in the large print matter, the author aims to give a connected and concise statement of the essentials of Pharmacology. The smaller print need not be considered by the reader who wishes to obtain merely a general knowledge of Pharmacology. This work contains more detailed data for consultation. Side headings have been introduced liberally, to facilitate this use. Bibliographic references have been used freely as a means of putting the student on the track of further details, should he choose to secure further information. This volume is therefore convenient both for study and reference.

AN OUTLINE OF THE PIQUET SYSTEM OF NUTRITION. By Dr. Clemens Pirquet, Professor of Pediatrics at the University of Vienna, Austria. 16mo of 96 pages. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, \$2.00 net.

The author in 1917-19 published a system of Nutrition in four volumes. The present work gives a complete bibliography of the subject from the years 1917 to 1922, giving the nem values of the principal food-stuffs and a table of Pelidisi indices, together with body measurements and nutrition, calories and nems, feed in the first year of life, Nutritional treatment of Tuberculosis, Proper feeding and Preventive Medicine.

THE EVOLUTION OF PUBLIC HEALTH NURSING. By Annie M. Brainard, Editor of "The Public Health Nurse," Lecturer on Administration of Public Health Nursing in Western Reserve University. 12mo of 454 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, \$3.00 net.

This gives a detail of completeness, being a survey of the History of Christian Nursing from its inception down to the present day. It contains a concise pres-

entation of the Rules for Nurses and Patients, Rules for District Nursing Associations.

TREATMENT OF FRACTURES: With Notes Upon a Few Common Dislocations. By Charles L. Scudder, M.D., Assistant Professor of Surgery at the Harvard Medical School. Ninth Edition, Revised. Octavo volume of 749 pages, with 1252 illustrations. Philadelphia and London: W. B. Saunders Company, 1922. Polished Buckram, \$8.50.

In the period between that has elapsed between the last edition of this work and the present time, as a result of the World War, much has been learned relative to the treatment of fractures. It has become recognized among the best clinicians that fractures is not alone a lesion of bone, but may also be associated with injury to the skin, muscles, blood vessels, nerves and bones and joints in the neighborhood of the fracture, as well as to the several viscera protected by bony structures. In this, the Ninth Edition, the author has brought the subject of fracture down to date. We recommend this work very highly.

PHYSIOLOGY AND BIO-CHEMISTRY IN MODERN MEDICINE by J. J. R. Macleod, assisted by Roy G. Pearce, A. C. Redfield and M. B. Taylor and others. 4th edition with 243 illustrations, including nine plates in colors. St. Louis. C. V. Mosby Company, 1922. Price, \$11.00.

This work has gone through four editions in rapid succession. In this edition the author has revised each chapter so as to incorporate as much as possible of what has been added to physiological knowledge during the past two years. Certain chapters have been rewritten, as for instance those on the "Output of the Heart," the conditions causing alterations in the acid base equilibrium of the blood. The normal electro-cardiogram and the movements and emptying of the stomach. Other chapters have undergone considerable alterations so as to permit of the incorporation of the recent work on intra-cardiac pressure, the capillary circulation, the mechanism and adaptation of mountain sickness, pancreatic diabetes, etc.

ANIMAL PARASITES AND HUMAN DISEASE. By A. S. A. Chandler, Ph.D. Second edition, revised, N. Y. John Wiley & Sons, 1922. Price, \$4.50.

This book is written primarily for the general public. It is written in simple form, technical terms being avoided, and lengthy descriptions and minute differentiations omitted. Special emphasis has been laid on the biological and practical aspects of the subject. The author calls particular attention to the effects of parasites on the human hosts, either directly as parasites or as disease-transmitting agents. The work will be found valuable by physicians, public health officers and nurses; also school officials and school teachers. Many changes from the former edition have been inserted in this one. We highly commend the work for the purpose for which it was intended.

CLINICAL MEDICINE, TUESDAY CLINICS AT THE JOHNS HOPKINS HOSPITAL. By Lewellyn F. Barker, M.D., L.L.D., Professor of Medicine, Emeritus, Johns Hopkins University; Visiting Physician to Johns Hopkins Hospital, Baltimore, Md. Octavo of 617 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, \$7.00 net.

This work is gotten up from the author's clinical experience at the Johns Hopkins Hospital extending over a period of years; bed-side teaching is now universally adopted in all medical schools and having entirely displaced the old didactic method formerly in use. The text is given in a very readable manner and should prove immensely valuable to both the student and general practitioner.

TUBERCULOSIS AND THE COMMUNITY. By John B. Hawes, M. D. Philadelphia and New York, Lea & Febiger, 1922. Price, \$1.75.

The author has well stated in his preface that in the preparation of this monograph, originality has seemed to be of less importance than a simple presentation of scientific facts. The author has brought out clearly and concisely, much of the information contained in reports, transactions, special articles, etc. While he has brought out the important points, he has aimed to omit unnecessary details.

## Society Proceedings

### COOK COUNTY

#### CHICAGO MEDICAL SOCIETY

*Regular Meeting, October 18, 1922.*

Peptic Ulcer.....John B. Deaver, Philadelphia, Pa.

Discussion.....	{	Arthur Dean Bevan
		Alfred A. Strauss
		E. S. Blaine
		Bertram Sippy
		Frank Smithies

*Regular Meeting, October 25, 1922.*

1. The Treatment of Chronic Fatigue Intoxication.—Ed. H. Ochsner.

General Discussion

2. Surgery of the Bile Tracts and a Review of 85 Operated Cases.—Emanuel Friend.

Discussion.....Louis Greensfelder.

### CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

*(Continued from October issue)*

#### DISCUSSION

They thought it could be assumed as a working hypothesis, that a similar deficiency acting throughout a different period of life, may not produce such a clear cut disorder as in infantile rickets, but bony changes elsewhere.

There were likewise certain blood findings in active rickets, the most important being a lowered content of inorganic phosphorus. This finding is considered as nearly conclusive evidence of active rickets. In some of these cases of progressive oto-sclerosis, they have likewise found a diminution

of the blood phosphate. They hope to show changes in the temporal bone of animals, which have been fed on diets deficient in the food accessories to those found in oto-sclerosis.

DR. CHARLES M. ROBERTSON said that he had contended that rickets and oto-sclerosis were practically the same thing.

In Dr. Beck's case of pituitary pressure, Dr. Robertson thought he would be decidedly justified in operating further upon the case, when the probability of finding a cyst rather than a tumor, because of the rapidity of the increase in size. If a solid growth had formed with such rapidity the child would have been dead. If the growth was a cyst the prognosis was favorable as regards sight and life. Dr. Robertson had reported two cases of cysts of the pituitary, operated intranasally. In one case the vision was reduced to almost "o" and the optic nerve looked chalky, like a profound optic atrophy. When pressure was removed the vision came back to normal and the optic nerve assumed normal appearance.

In the first case of carcinoma of the larynx, he thought the gentleman was very fortunate. He had a unilateral growth which was taken out from below upward. This is the easiest method of removing the larynx and the safest. One point in removal of the larynx is vital: the recurrent laryngeal nerve running up the other side toward the larynx is very easily irritated. Even if rubbed slightly it could be irritated and as the fibers of the pneumogastric are very intimately associated with the recurrent laryngeal nerve, respiratory paralysis may occur from irritation of these fibers. The fact that the patient had an erysipelas was in his favor. Dr. Robertson had seen two cases, one in the Royal Hospital of London and one case in private practice where erysipelas cured such a growth. This fact was so well known that patients have been infected with erysipelas in order to promote cure. In one case seen in London the growth affected the larynx and the pharynx. When he examined the patient after having had erysipelas the contour of the larynx and the pharynx was as nearly normal as he ever expected to see them. It was impossible to tell that the patient had had a tumor of malignant or any other type.

In his opinion about 40 per cent. of the success in cases of laryngectomy depends upon the operator and the other 60 per cent. upon after-treatment. The reason the patients die is not because they are not operated upon properly but because they are in hospitals that are not taking care of such cases as a routine thing, thus prohibiting the proper after treatment.

He considered the operation of laryngeal fissure much easier. In the case presented, Dr. Robertson thought the man would recover a voice that would be husky, but one that would permit him to talk for hours, if necessary. He had always made it a practice to broil these cases with a hot iron after the diseased tissue was removed. Then the cicatrix forms a straight band across the larynx as a fibrous band.

Dr. Robertson expressed the opinion that radium had killed ten times more people than it had ever benefitted, but what the future will develop cannot be told at present. He had seen many cases which radium had helped for a few weeks, and then the growth spread rapidly. In his service at the Alexian Brothers hospital, he had yet to see any except the superficial cancers of the throat that has been cured by radium, or even alleviated. Outside of the extirpation of the tumor *in toto*, he believed the application of actual heat was the thing that destroyed malignancy. It made no difference whether the growth was in the throat or some other part of the body, and if one used the knife he should sear the wound afterward. In cauterization under ether great care must be used or an explosion of the ether gas may result. He had seen the cautery used without bad result, but warned of this danger.

Dr. Robertson had seen two cases of sinus thrombosis in which there never was discharge in the ear, but at the time of operation the attic cells were full of pus. He did not know whether one was a tubercular case or not, but the drum was either resistant or there was not enough pus to break through by pressure. The suppuration had been going on until the patient was beginning to have profound meningitic symptoms. The ear-drum membrane was not even pink, and yet it was an old case of cholesteatoma.

DR. G. W. BOOT said he had had several cases that

showed peculiar lung symptoms. In one case the child had inhaled a toy arrow head. Another patient had inhaled a collar button, which had remained in the lung for two years before a diagnosis was made and at that time an abscess had formed. A third case, a boy of about fourteen years, had irregular symptoms of tuberculosis, and a radiogram showed a piece of wire in the lung. The symptoms dated from about the time of a tonsillectomy and the wire was probably from a tonsil snare.

Dr. Boot thought it strange that general practitioners were so slow about taking x-ray pictures in peculiar pneumonia cases. In his opinion the three great contributory causes of carcinoma of the mouth and throat are a dirty mouth, syphilis and tobacco, and he would be very loath to infect a patient with lures in order to cure him, as had been reported.

DR. HARRY KAHN thought that Dr. Kaufman's recent work was epoch making. He knew the results obtained in some of the cases treated were remarkable. Some English believe there is an anti-rickets vitamin. The Americans do not take this so seriously and Hess has stated that the A vitamin is not a necessary article of food in the treatment of rickets and recommended the application of sunlight.

H. Steenbock (Science 50, 352—1919) made an interesting generalization in regard to fat-soluble A vitamin. All foods containing fat-soluble A vitamin are usually yellow in color—butter, carrots, sweet potatoes, yellow tomatoes, corn, etc., and should form a part of the diet.

DR. ROBERT SONNENSCHNEIN asked whether it was not a fact that unboiled milk contained almost as much fat-soluble A vitamin as most any other substance. Secondly, whether it is not the organic iodine found in cod liver oil that is partly responsible for the good effects. If it were not for the iodine would not unboiled milk alone be just as good as any other substance.

DR. ARNOLD B. KAUFFMAN, replying to discussion, said that cod liver oil in oto-sclerosis is not new. Almost every otologist abroad had used cod liver oil in oto-sclerosis because of the good results that were obtained, and because of the similarity between oto-sclerosis and rickets. It was used empirically and no mention was made of the fat-soluble A vitamin. Hess had come out with sunlight and ultra-violet rays, and most authors admit that they obtain the same results as from cod liver oil, but get the effect from different angles.

Dr. Kauffman said that cod liver oil contained the fat-soluble A vitamin in abundance particularly the unrefined oil. It is impossible to cure rickets infants with unboiled milk but cod liver oil will cure them.

Dr. Kauffman cited the fact that when Col. McGarrison spoke on gastro-intestinal conditions in relation to deficiency disease recently, he stated that during his experience in the Himalayan mountains, he had never seen a case of deafness. How much importance could be attached to this statement Dr. Kauffman did not know, but in various climates where people live on a strictly vegetable diet and uncanned food stuffs, these conditions are apparently absent.

DR. JOSEPH C. BECK took exception to Dr. Robertson's very emphatic statement regarding radium. In Dr. Beck's opinion, more people should use radium so that the results can be definitely determined. He hoped to present a patient for whom they had performed a laryngectomy from within outward by the use of radium. The man had refused operation but did not refuse the radiumtherapy. He considered radium a very important adjunct in the treatment of cancer but at this time could report no cures.

DR. J. HOLINGER addressed the Society on "Conditions for Progress of Oto-Laryngology." (Author's Abstract.) If the profession will pull together it will be able to get a large ear, nose and throat clinic in Chicago and do work in pathology of the labyrinth, which so far has not been done in this country.

DR. GEORGE E. SHAMBAUGH pointed out that there were some deplorable practices in connection with the treatment of patients suffering from nose and throat conditions at present which have come about largely from the practice of instructing interns in general medicine and general surgery in

the technic of operations in the nose and throat. These men can have no proper appreciation of the indications for these operations and the result is that we are seeing a great many unnecessary operations by this type of practitioner. In certain ways there has been as much substantial progress in our specialty in this country as there has been abroad, but what has been accomplished has been worked out largely through individual initiative.

There was one phase of the subject which Dr. Holinger did not touch upon, but which is quite vital when considering progress in our specialty, and this is the method employed in training men for this work. In Europe the prospective specialist has always gone through a period in which he served as an apprentice or assistant in a well organized and equipped clinic. Our own men who have sought work abroad have very rarely been able to avail themselves of this plan, which is reserved for their own men. A system of intensive courses, which might well be termed courses in "forced-feeding" have been developed to accommodate especially the Americans. Courses of this sort are of value chiefly for those who have had their period of training by serving as assistants in a well run clinic but they have no proper place for those who are undertaking to learn the subject without that training.

Dr. Shambaugh thought that the facilities for securing proper training in otolaryngology were certain to be greatly improved in the near future. The fundamental training must be obtained here in our own institutions. After this has been acquired, courses such as are offered in our post-graduate institutions as well as in certain foreign cities might well be taken, but such courses should not be offered as a substitute for the real fundamental training. Those who occupy positions in teaching institutions should bear in mind the difference between the opportunities in our own universities and those that exist, for example, in Basel, and should strive to educate our universities to a proper appreciation of what a department in otolaryngology should be.

DR. ELMER L. KENYON said that in his opinion, Dr. Holinger had struck a keynote which was right, and had struck it at the right time, for we are on the point of paying salaries to scientific men, even scientific medical men, and this will do much toward placing research on a truly scientific basis.

Dr. Kenyon expressed two thoughts in the encouragement of Dr. Holinger's suggestion: first, he doubted whether in the history of this country anybody had gone to the State Legislature and said this thing should be done. In his opinion, what was needed was a body of men who could establish an organization to set the thing going. Secondly, he believed the thought should be to start things now in the right direction, but not necessarily to expect this generation to put the project on a final basis. We should attempt to set something going that is solid, and look for future generations to build on it.

DR. G. W. BOOT agreed with all the speakers and believed there was probably no one particular in which the members were so deficient as in the pathology and histology of the subject.

DR. JOSEPH C. BECK said all were familiar with the political side of the question. Politics played a great role in the securing of post-mortems. All had had experiences with the undertaker politicians who prevented post-mortems. They often have to fight for them, even though the families of the patients are willing to have them performed. The sentiment is decidedly against post-mortems in this country, sometimes because of religious sentiment—this particularly among the Jews, but in the old country it is almost a law that post-mortems shall be performed.

He offered the necessary facilities for pathological investigation and training but only had found a few men who took the necessary interest. The men who came for post-graduate work were interested only in the operative side and cared nothing for pathology.

Dr. Beck thought an earnest effort should be made by the Society to start the thing suggested.

DR. H. R. BOETTCHER agreed with Dr. Beck that it is almost impossible to obtain post-mortem examinations.

DR. HENRY KAHN thought two factors entered into the question: first, better education of the medical students; second, the apathy and antagonism of the public toward the medi-



cal profession. Anything the medical profession brings forth will be combatted by all the sects and "isms" and unless they have a large lobby they will not get anywhere. If they have nothing that interests the State Legislature they will get nothing from it. The public has to be educated before such things can be put through.

DR. HOLINGER, closing the discussion, thanked the gentlemen for their remarks. He thought the conditions here and abroad were not essentially different. He had seen the whole clinic in Basel grow out of nothing. When he worked with Siebenmann in 1891 the clinic was held in the private consultation rooms.

He thought they had the same prejudices in regard to the post-mortems.

He had had this matter in mind for many years and believed if the public was educated to the questions that need to be solved it will become interested and will help with funds. He had brought the matter before the Council of the Chicago Medical Society and felt that when there was unanimity much would be accomplished.

### CARROLL COUNTY

The Carroll County Medical Society were the guests of Dr. Ellingsworth, the managing officer of the State Hospital at East Moline, Oct. 6th.

Lunch was served at noon. A short meeting followed, at which Dr. C. W. McPerson, Hazlehurst, was elected secretary to fill the unexpired term of Dr. J. J. Mershon, who has left to take post-graduate work in Chicago.

The staff then conducted a ward walk. We were impressed by the neatness and order everywhere apparent, and by the good treatment given. Special mention should be made of hydrotherapy and employment. They seemed well equipped for both these measures.

An interesting clinic was then given by the staff of doctors of nervous and mental cases.

A vote of thanks was given to Dr. Ellingsworth and the staff. The visiting doctors to the number of twelve then returned home feeling that the day had been pleasantly and profitably spent.

H. R. SWORD, President,

C. W. MCPHERSON, Secretary.

### DeKALB COUNTY

The DeKalb County Medical Society met at St. Mary's Hospital, Oct. 26, 1922, at five p. m., with twenty-three physicians present. The first thing on the program was the inspection of the hospital and after that a regular banquet was served. Following the dinner Father J. A. Solon invited the County Society to make use of St. Mary's Hospital as a meeting place at any time. "The latchstring hangs on the outside and a crust of bread will always be ready."

Dr. Maud Slye of the Department of Pathological Research at the University of Chicago told of her investigations as to the origin of cancer. Fifteen years ago she started to work with mice. She spent three years in separating them into purebred groups and observing the cycles that followed in the different generations when different groups were interbred. Cancer appears spontaneously in mice the same as it does in man and morphologically the growth is identical. Starting with the Mendelian Law of Heredity she proved in her experiments with mice that *Cancer*

and *Non-Cancer* are hereditary tendencies. She has carried spontaneous cancer in mice through fifty generations. She concludes that cancer is hereditary and not a contagious or bacterial disease. She has performed 38,000 postmortems on mice. She has 13,000 live mice in her laboratory. She has a mouse cancer ward with 150 patients. She has spent the last twelve years in the study of cancer and has found that the hereditary tendency is consistent the same as pigmentation and albinism.

An enthusiastic vote of thanks was given Father Solon, St. Mary's Hospital, and Dr. Slye.

The following officers were elected to serve during 1923: President John P. Kane, DeKalb; secretary and treasurer, Clifford E. Smith, DeKalb.

### FULTON COUNTY

The 25th annual meeting of the Fulton County Medical Society was held at ten a. m., October 10, 1922. Clinics were held at the Graham Hospital from 10:00 a. m. to 11:45 a. m., after which a light luncheon was served at the Elks Club. There were 25 visiting doctors served. The afternoon session was called to order by the president, E. G. Davis, at 1:30 p. m., and the following officers were elected for the ensuing year:

President, E. M. Price, of Astoria; first vice-president, J. W. Welch, of Cuba; second vice-president, R. H. Maguire of St. David; necrologist, L. R. Chapin, Canton; member legislative committee, C. D. Snively, Ipava; censor, A. C. Cluts, Ellisville; member of committee on public health, C. H. Hamilton, Vermont; secretary-treasurer, W. E. Shallenberger, who refused to accept. On motion the Society voted to allow the acting secretary one week to reconsider the matter.

The report of the treasurer showed a balance of about \$300. About fifty doctors from Fulton county, including visitors, were present. The regular scientific program commenced at 2:00 p. m. Dr. H. M. Camp of Monmouth, gave a splendid paper on "Shock," which was freely discussed. Dr. H. G. Wright, of DeKalb, gave a splendid address on the medical profession and medical legislation. Dr. Wright's address was very much appreciated.

The meeting adjourned at 4:30 p. m., until 6:30 p. m., when a dinner was served to doctors and invited guests at the Elks Club. About seventy participated. At 7:45 the meeting was called to order and Dr. Robert C. Bradley, representing the State Department of Health, read a very interesting scientific paper on "Carriers." The meeting was closed by an address from Hon. W. S. Jewell of Lewistown, senator from the 43d Senatorial District, on the subject, "Why the Public Should be Interested in Scientific Medicine and Medical Legislation." Mr. Jewell's address was along practical lines from the viewpoint of a member of the General Assembly and gave the doctors much to think about in the future concerning medical legislation.

The meeting adjourned at 9:30 p. m., after being voted by all present as being the best medical meeting held in Fulton county. It was the consensus of those present that the committees of the State Medical So-

ciety should be re-organized and that different methods should be adopted by the profession concerning medical legislation.

W. E. SHALLENBERGER,  
Acting Secretary.

### MADISON COUNTY

#### *Our September Meeting*

The Madison County Medical Society met in the Wilkey Theatre, Edwardsville, on September 1st, President A. F. Kaeser, presiding.

Twenty-eight members and two visitors were present.

The action of the secretary in respect to Mr. Pufalt and Mrs. Wright, patients in St. John's Sanitarium, was endorsed.

The community nurse read her report for August which was ordered filed.

The secretary was instructed to write a letter to Mrs. Chas. W. Lillie, expressing the sympathy of our members, at the loss of her husband.

The secretary announced that the County Sanatorium Board had appropriated \$150 a month to assist in caring for indigent tuberculosis patients. He also acknowledged the receipt of \$450 being the amount due for the months of June, July and August. The society passed a vote of thanks for this generous donation.

Dr. Edwin P. Sloan, president of the Illinois State Medical Society then gave a lecture on goiter which was illustrated by moving picture films showing technique of operation.

It was a wonderful and graphic exhibit and was highly appreciated by the audience. After the lecture Dr. Sloan held a clinic, examining ten patients, all borderline cases, giving diagnosis and suggesting treatment.

#### *Our October Meeting*

The Madison County Medical Society met in Edwardsville on October 6, 1922. As the president and vice-president were absent Dr. R. S. Barnsback of Edwardsville was elected president pro tem.

Nineteen members and two visitors were present.

The community nurse read her report for September which was ordered filed.

Dr. M. A. Bliss gave a splendid address on "Modern Tendencies in Psychiatry," which caused quite an animated discussion. It was a very instructive effort and a rising vote of thanks was given our distinguished visitor.

On motion adjournment to meet on November 3, 1922.

### OGLE COUNTY

The regular meeting of the Ogle County Medical Society was held in the Chamber of Commerce hall in Rochelle, on October 18, 1922. President Kittler presiding. Roll call found 16 members present and four visiting friends, Dr. W. C. Reineking, of Rockford, president of the Rockford Municipal Tuberculosis Sanatorium; Dr. D. Lichty, of Rockford, director of the Sanatorium; Mrs. C. Syster, of Oregon, presi-

dent of the Ogle County Tuberculosis Association, and Mrs. Gray, of Rochelle, director of the association.

Dr. H. H. Davis gave an extensive report on the question laid over from last meeting regarding the supervision of the health actions of the county, such as tuberculosis clinics, crippled children clinics, etc. In order that the unnecessary expenditures in the county may be eliminated and the clinics restricted to pauper classes, he moved that an advisory committee of the Ogle County Medical Society be appointed to advise and coordinate the various public health activities of the county and to take up the question of any unethical conduct of the nurses or clinics toward the practicing physicians with the county board whenever such questions cannot be satisfactorily settled between the parties concerned. Motion carried. A heated discussion followed between the members of the Society and the ladies representing the Tuberculosis Association. Drs. Reineking and Lichty, of Rockford, gave excellent advice and advised careful consideration and moderation between both factions. The advisory committee appointed by the chair were Drs. H. H. Davis, R. O. Brown and J. M. Beveridge.

Motion made—That the president appoint a committee of three to interview the pauper committee of the Board of Supervisors concerning their methods or objects in tabulating accounts submitted at their last meeting. Motion carried. The chair appointed the following committee to act on motion: Drs. H. H. Davis, R. O. Brown, and J. M. Beveridge.

Dr. V. D. Lespinasse, of Chicago, read an interesting and instructive paper on "Diseases of the Prostate." Owing to the lateness of the hour this able paper was not opened for discussion. The following new members were unanimously elected to full membership of the society: Drs. O. J. Gause, of Creston; C. G. Manawalt, of Ashton; Jessie C. Kennedy-Dedrich of Rochelle, and C. H. Scaller, of Rochelle.

Election of officers resulted as follows:

President, W. E. Kittler, of Rochelle; vice-president, J. C. Akins, of Forreton; secretary-treasurer, J. T. Kretsinger, of Leaf River; censors, three years, J. M. Beveridge, of Oregon, two years, T. McEachern, of Rochelle; one year, R. O. Brown Mt. Morris. Legislative Committee, H. H. Davis, of Monroe Center; H. H. Sheets, of Oregon, and R. S. Johnson, of Chana. Delegate, J. M. Beveridge, of Oregon; alternate, R. E. Stevens, of Rochelle.

No further business to come before the society, the meeting adjourned to meet in regular session in July, 1923.

Dr. J. T. KRETSINGER, Secretary.

### WARREN-KNOX-HENRY COUNTIES

Warren-Knox-Henry Tri-County Medical meeting held in Monmouth, Thursday, October 12, 1922, at the Monmouth Elks Club. Meeting called at 12:30 p. m., with a dinner. After the dinner the meeting was opened with an address of welcome by Monmouth's 100 per cent pep mayor, Chester Smith, who gave his impressions of the medical profession from personal observation, and experience. Mayor Smith proved himself

equal to the occasion and gave a short, but interesting talk.

Dr. Edward Ochsner, of Chicago, gave a talk on "Medical Economics" of such a character that it held the attention of the large audience which included the dental men of the community also.

Dr. Bransford Lewis, of St. Louis, gave a "Stereopticon review of some genito-urinary problems." Dr. Lewis in this talk reviewed many interesting subjects along this line, covering all lines of genito-urinary work.

Dr. Wm. Engelbach of St. Louis gave a talk on "The Treatment of Ductless Gland Disorders." This, too, was an illustrated talk, and was extremely interesting. Dr. Engelbach gave talks on the various types of ductless gland disorders; showing the methods of classifying same, and the results of the treatment used in the various conditions.

Dr. E. P. Sloan, of Bloomington, gave a "moving picture demonstration of the Sloan goiter operation," and a review of his work extending over many years of this work. His records of over 3,100 goiter cases were very instructive. The talk was of interest to not only the surgeon, but also the men in general practice, who see most of the goiter cases first.

The last number on the program was a talk on "The Prevention of Birth Injuries to the Child," given by Dr. Hugo Ehrenfest of St. Louis. Dr. Ehrenfest has spent a large amount of the time during the past few years in this line of work; realizing that many such injuries could be prevented, through early diagnosis, and the proper early management, as well as giving a thought to the prophylaxis in each type of injury.

This was the second meeting of this society, which met last year in Galesburg. The attendance at this meeting was over one hundred fifty, from all parts of west central Illinois, and many from eastern Iowa. The next meeting will be held next fall at Kewanee, Ill.

## Marriages

CHARLES ANTON FREUND to Miss Helen Mary Browne, both of Chicago, July 1.

SAMUEL JOHN HOUSE, Nashville, Tenn., to Miss Mary Goodell Ingals of Chicago, September 29.

JOHN GABRIEL O'MALLEY to Miss Esther Schaaf, both of Chicago, October 10.

CHARLES MERRILL ROSE to Miss Ferol Irene Mosley, both of Chicago, October 9.

## Personals

Dr. Wilmot L. Ransom, Rockford, returned September 19, from a tour of Europe.

Dr. Harris J. Kaye, Waukegan, has returned to America after two months in Europe.

Dr. Albert M. Earel, Hoopston, suffered a fractured hip when he fell from a pear tree, September 15.

Dr. Darwin M. Keith, Rockford, has returned from Europe, where he attended the International Otology Congress.

James Minnick, superintendent of the Chicago Tuberculosis Institute, has resigned, following ten years' service.

Dr. Archibald L. Hoyne has been appointed superintendent of the Municipal Contagious Disease Hospital, Chicago, to succeed Dr. Arthur E. Gammage, who was suspended, October 19.

In response to complaints from officials in Galva and Galesburg, a sanitary engineer from the state department of health is investigating the methods of sewage disposal in those cities.

Dr. Robert H. Babcock delivered a lecture on "The Heart—Patients, Symptoms, Examination, Diagnosis, Treatment and Prognosis," before the Summitt County Medical Society of Ohio, October 3.

Dr. Edith Lowry Lambert, St. Charles, has been conducting a summer camp for girls ranging from 3 to 14 years of age. Weekly weighing of all girls in the camp and health lessons were among the features of the vacation.

Dr. Paul A. Slater, Hindsboro, has been appointed district health superintendent, under the state department of health, of the Seventeenth Senatorial District, which includes the counties of Coles, Clark, Douglas and Edgar.

Dr. Harold B. Wood, county health director of Dodge County, Kansas, has been appointed director of public health for the city of Bloomington, to succeed Dr. J. M. Furstman, who resigned some time ago.

Dr. John W. H. Pollard, health officer of Quincy, has been named by Dr. Rawlings of the state board of health as member of the committee on public health and child welfare, which will meet in St. Louis in November, and of the committee on pasteurization, which will meet in Illinois shortly.

Dr. A. P. Robertson, of Alton, a radio fan, has installed an up-to-date radio outfit. He can take messages from Austin, Texas, Winnipeg, Canada, Schenectady, New York, and other distant points.



Dr. A. B. Middleton, Pontiac, has been appointed chief medical officer for the department of Illinois, American Legion.

Dr. and Mrs. Gustave H. Fricke, Park Ridge, celebrated their golden wedding anniversary October 19th. The Doctor was graduated from Rush in 1869 and has practiced in Park Ridge since with the exception of three years in Chicago. The *Park Ridge Herald* published an interesting "valedictory" upon the occasion of Dr. Fricke's retirement.

## News Notes

—A county health center was formally opened in Walworth county, October 11. Dr. Mildred Van Cleve will give examinations once a month, and a county public health nurse will be in attendance.

—A campaign for \$10,000 to finance the work of the Elgin Tuberculosis Association and the nurses' council was conducted by the Elgin Health Center Committee, October 23-28. Physicians and dentists of the city contribute their services free to the health center.

—It is reported that Drs. Frederick C. Quitzeau and W. Dietz of the Anna State Hospital were convicted, October 20, on charges of practicing medicine without state licenses and were fined \$100 each and costs.

—It is reported that, through efforts of the state department of public health, all public health nurses of the state have been organized into local units, each coextensive with a senatorial district, with the exception of three districts.

—Through the generosity of Mr. Arthur Lowenstein, a new department for the care of premature infants has been made possible at the Michael Reese Hospital, the superintendent, Dr. Herman Smith, announces. An adequate supply of human milk and continuous special nursing care will be features of the newly opened department.

—Dr. Charles H. Mayo, Rochester, Minn., has accepted the chairmanship of the committee on medical research and advancement of the Tri-State District Medical Society. The other members of the committee are: Drs. Dean Lewis, Chicago; Frank Billings, Chicago; George W. Crile, Cleveland; Campbell P. Howard, Iowa City, and John L. Yates, Milwaukee.

—Director A. M. Sheldon of the Illinois Department of Registration and Education, according to report, recently informed Dr. Charles Hill, head of the Chicago Medical School, that students from that institution will not be accepted for examination for the license to practice medicine in Illinois. This ban followed Dr. Hill's refusal to permit a committee of physicians, which Mr. Sheldon appointed for that purpose, to inspect the college.

—It is reported that Ludwig Augustinus of Chicago was sentenced to serve one year in the house of correction and to pay a fine of \$1 on each of three charges of practicing medicine without a license, the sentences to run concurrently. He was also held to the grand jury on six charges for operating a confidence game. It was stated that he had obtained money from church members for Boy Scout activities which never developed.

—The municipality of Berwyn has installed a health officer and two nurses on a full-time basis. Funds for this purpose were made available through the creation of a public health district, which, under the laws of Illinois, provides for the levy of a tax that can be expended for nothing but public health work. Berwyn, it is stated, is the second municipality in the state to create a public health district by popular vote.

—The state department of public health announces that a special bulletin on the prevention and control of diphtheria has just come from the press. Space has been given to a discussion of the practical use of toxin-antitoxin and of the Schick test. The technic of administering antitoxin and problem of the diphtheria carrier are also covered at some length. Copies of the bulletin are free to the medical profession and public health workers in Illinois, and will be forwarded promptly on receipt of requests addressed to Dr. Isaac D. Rawlings, director of public health, Springfield.

—Plans were completed through the county superintendent of schools for carrying out a public health program in the rural schools and churches of Lake County during the week which began October 22. The state department of public health appointed two field physicians, Dr. A. J. Markley, Belvidere, and Dr. Elmer M. Thomas, Aurora, who devoted their efforts toward the success of the occasion. The program

consisted of professional talks, health movies and presentations by a professional public health entertainer.

—Following the recent licensure scandal, several state medical licensing boards removed Illinois from their reciprocity agreement on all licenses granted under the Miller administration. It is stated that the only irregularities were in the examinations held in October, 1921, and January, 1922; that all licenses obtained during these examinations are to be subjected to review and that whenever irregularities are found the licenses will be revoked; all others are to be revalidated.

—The Trustees of the Hahnemann Hospital wish to announce that they have reorganized the Staff of the Hospital on a non-sectarian basis and that they are fully determined to conduct the institution according to the highest standard of modern scientific medicine. The essentials for active Staff membership are: Proven loyalty to and support of the Hospital, professional efficiency and the highest ethical standing. In addition to the daily, private and clinical work in the Hospital the activities of the Staff include: An out-patient department in all branches of medicine and surgery, weekly clinical conferences for discussion of cases of unusual interest and monthly meetings of the entire Staff for improving the service to the patient. The general profession is always welcome at the clinical conferences. The personnel of the Staff includes both profession and laity that the clinical cases will receive the same careful attention as the private patients.

## Deaths

THOMAS HENRY TRURO BRAY, Chicago; Hahnemann Medical College and Hospital of Chicago, 1902; formerly a minister; author of many religious works; died October 23, aged 75, from carcinoma of the prostate.

SYLVESTER S. CLAYBERG, Avon, Ill.; Rush Medical College, Chicago, 1872; practitioner in Avon for a half a century, also a druggist, died October 4, aged 84, from senility.

JENNIE TRISH TOPINKA COHN, Chicago; Hahnemann Medical College and Hospital of Chicago, 1895; a Fellow A. M. A.; at one time research worker for the department of health; died October 3, aged 56, at the North Chicago Hospital, from carcinoma of the breast.

WILLIAM W. ESCH, Chicago; Jenner Medical College, Chicago, 1906; died September 23, aged 46, from heart disease.

RICHARD NORMAN FOSTER, Chicago; Hahnemann medical College and Hospital of Chicago, 1869; emeritus professor of obstetrics at his alma mater; practitioner in Chicago for fifty years; aged 88, died September 25, at Oceana, Calif.

CHARLES M. HUBBARD, Virginia, Ill.; Eclectic Medical College, Cincinnati, 1871; a Fellow A. M. A.; died suddenly, October 7, aged 74, from heart disease.

STUART JOHNSTONE, Chicago; College of Physicians and Surgeons (University of Illinois College of Medicine), Chicago, 1886; a Fellow A. M. A.; member of the Chicago Society for the Prevention of Tuberculosis; formerly professor of gynecology, Bennet Medical College; professor of gynecology and abdominal surgery, Jenner Medical College, and professor of diseases of the rectum, Post-Graduate Medical School; member of the staffs of the Cook County, the Chicago Postgraduate and of the Lakeside hospitals; died September 28, aged 64, at the Lakeside Hospital, from carcinoma of the stomach.

JOHN KESSEE, Carbondale, Ill.; College of Physicians and Surgeons of Keokuk, Iowa, 1878; formerly member of the city council; aged 73; died September 20, at the home of his son in Denver, from paralysis.

ROBERT D. MACARTHUR, Chicago; McGill University Faculty of Medicine, Montreal, Canada, 1867; a Fellow A. M. A.; emeritus professor of dermatology and syphilology, Chicago Policlinic; practitioner in Chicago for more than half a century; formerly staff physician at the Henrotin, Presbyterian and St. Joseph's hospitals; since 1871 senior attending physician to the Scottish Home at Riverside; aged 79; died suddenly, October 24, at the Henrotin Memorial Hospital, from chronic myocarditis, following an operation.

WINFIELD SCOTT MARSHALL, Chicago; Medical College of Ohio, Cincinnati, 1872; died October 4, aged 73, from heart disease.

JAMES MILLARD MAURY, Wheaton, Ill.; Illinois Medical College, Chicago, 1897; a Fellow A. M. A.; died October 2, aged 63.

CORNELIUS F. MILLS, Chicago; University of Michigan, Ann Arbor, 1871; died, October 1, aged 77, from cerebral hemorrhage.

ARTHUR J. O'KEEFE, Chicago; Dearborn Medical College, Chicago, 1906; aged 50; died October 19.

JACOB SOLOWAY, Chicago; Chicago College of Medicine and Surgery, 1917; member of the Illinois State Medical Society; died October 3, aged 32, from pneumonia.

THEOPHILUS SPRAGUE, Sheffield, Ill.; Rush Medical College, Chicago, 1870; a Fellow A. M. A.; Civil war veteran; died September 21, aged 75.

ADAM SZWAJKART, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1897; a Fellow A. M. A.; College of Physicians and Surgeons, Chicago, 1903; attending physician at the St. Mary of Nazareth Hospital; in 1913 he was appointed a member of the state medical board and in 1915 he was appointed Cook County physician and director of the Psychopathic Hospital; died September 25, aged 61, from heart disease.

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## Original Articles

### PEPTIC ULCER\*

JOHN B. DEEVER, M. D.  
PHILADELPHIA, PA.

It is with a sense of deep appreciation that I come to discuss this subject tonight. When I review what surgeons, clinicians, bacteriologists and pathologists have contributed to our knowledge in this field, I have a feeling that perhaps they are very much like the prophets who are not without honor except in their own country and that it is they, instead of I, who should be addressing you. Perhaps, however, from my work of many years in the field of gastric surgery, I can bring you some of the results of that experience and the deductions I have been able to draw from them.

In speaking tonight of peptic ulcer I mean an ulcer of that portion of the digestive tract, the stomach, the duodenum, and the first portion of the jejunum, in which hydrochloric acid is normally present. Personally, I have never seen a primary jejunal ulcer although jejunal ulcers after gastro-enterostomy are, of course, not uncommon.

In considering the treatment of peptic ulcer, our opinions can no longer be based on general impressions or prejudice, for by this time enough cases have been treated by surgical methods of various kinds, and by medical methods, for us to judge by end results, as seen in our follow-up records and mortality figures, as to proper treatment. These statistics I think, are as conclusive to you as they are to me, that the majority of peptic ulcers demand surgical treatment. As Moynihan has said, "the necessity for the surgical treatment of gastric ulcer is a confession that medical treatment has failed." While in the majority of cases, I be-

lieve medical treatment is doomed to failure, there are certain types of cases which should be given this treatment, at least temporarily. By medical treatment I mean a careful supervised regime such as that outlined by Dr. Sippy.

The question that raises the most doubt in my mind, in the cases diagnosed and treated for ulcer, is, are all of these diagnoses correct? Are not many cases of chronic appendicitis, chronic interstitial cholecystitis, chronic pancreatitis and some cases of mild visceroptosis, treated for ulcer? In my experience with thousands of patients upon the operating table, I have proven this many, many times. In reality the only two absolutely reliable methods in making an exact diagnosis are sight and touch. Incision and inspection dispel doubt and reveal truth.

Those of you who may take exception to these remarks will doubtless say that the x-ray eye stands next to the human eye. I am not one of those who uses the x-ray to the exclusion of physical signs. A negative report means nothing and a positive one is only confirmatory, since a carefully taken history and physical examination are of as much if not greater importance. I have seen x-ray fail so often in border-line cases that I do not hesitate to express myself, for I know whereof I speak. I refer more particularly to roentgen-ray diagnosis of the ulcer, where the pathology is confined to the surface of the mucosa, and where the ulceration has not invaded the deeper layers of the mucosa and especially the muscular layer. While the expert roentgenologist should be and often is able to recognize the lesion, he cannot always do so; therefore, I think my criticism is justified. Clinically, we know too well that the symptomatology is often very difficult to interpret correctly, and we know the symptomatic variability of a chronically diseased appendix, which oftentimes causes digestive troubles apparently indicative of ulcer.

We know the difficulties of differentiating between a chronic appendicitis with the appendix

\*Read before the Chicago Medical Society, October 18, 1922.



in a high position, and a typical duodenal or gastric ulcer, as well as non-calculous interstitial cholecystitis and sometimes chronic pancreatitis. This being the case may I not be allowed some skepticism with regard to the medical diagnosis of ulcer in many cases? Dr. Sippy, who has been both kind and courteous enough to do me the honor of agreeing to discuss my paper, may be able to enlighten us upon this question of diagnosis and how he knows that all of his diagnoses of ulcer are correct.

The all too frequent custom of treating peptic ulcers in a medical dispensary by the administration of magnesium oxide and bismuth with no means of supervising the diet and with patients so situated economically that they cannot accept the treatment in its entirety, should be heartily condemned.

The only cases which I routinely refer for medical treatment are the acute ulcers and those having acute hematemesis without a prolonged previous ulcer history.

But I feel that cases that are refractory under medical treatment, and have had a recurrence of symptoms after such treatment, and any case with a chronic history, in the presence of definite pain with or without vomiting, or recurrent hemorrhage, or pyloric stenosis or hour-glass constriction, and cases having evidence of perforation, or leaking, operation should be the only measure considered. Mayo Robson states that evidence of hemorrhage is present in from 50 to 80 per cent. of all gastric ulcers, and that statistics show it to be fatal in from three to eleven per cent. At the University Hospital during the years from 1915 to 1922 of 231 admissions for peptic ulcer three died of hemorrhage before operation could be undertaken. Perforation is a more common danger, for according to the best statistics, as quoted by Davis, 20 per cent. of all duodenal ulcers sooner or later perforate, while about seven per cent. of the gastric ulcers perforate. At the Lankenau Hospital our findings do not agree with this, for although we operate on more chronic duodenal ulcers, we have had nearly three times as many perforated gastric ulcers as duodenal ulcers. In the same series of cases at the University Hospital, referred to above, seven of the 231 admissions died from perforation without operation. At the Lankenau Hospital, I have operated on 54 consecutive cases of perfor-

ated ulcer without a death. Charles Mayo has said "while few persons die from these conditions (hemorrhage and perforation) the number is greater than those who succumb from surgical measures, which if instituted in time, should restore the patient to health and activity."

One-third of the patients who come for operation twelve hours after perforation die, while practically 100 per cent. of those who come 48 hours after perforation die. This mortality is not due to the surgeon. It is due to a want of diagnosis or to the procrastination of the doctor who first sees the patient and who temporizes with non-surgical procedures.

A third danger is that of malignant transformation of the ulcer. While this seldom occurs in the duodenal ulcer, I believe that we must look on every gastric ulcer as potentially malignant. Let me again quote Charles Mayo. He says, "It will take years of observation to estimate fairly accurately this percentage of cancers which have occurred on ulcer, even if from one in twelve to one in six are thus developed. I believe the percentage is higher." Of 143 patients operated on for gastric carcinoma at the Lankenau Hospital (1909-1920) 44 or 30.7 per cent. gave a previous history characteristic of ulcer and of 100 consecutive specimens of gastric carcinoma removed at operation and subjected to careful histological study by our pathologist, Dr. Reiman, 38 gave evidence of having developed on an ulcer base. In this connection I may refer to Gregory Cole's recent aphorisms concerning gastro-duodenal ulcer and carcinoma. Cole believes that carcinoma is carcinoma from the start and may ulcerate sooner or later, and also that ten per cent. of the gastric ulcers of the florid type resemble an ulcerating carcinoma to such a degree, that the two cannot be differentiated either by roentgenological examination or exploration." I agree perfectly with the last part of the aphorism, and may add that sometimes even the pathologist is not sure of his diagnosis. It is difficult for me, however, to agree entirely with Cole that gastric carcinoma is always carcinoma from the start. I cannot believe that all our eminent pathologists should be so entirely mistaken in their judgment as to make it subservient to the findings of the Roentgen expert. The steps in the degeneration cannot be exhibited in the roentgenogram but they

can be demonstrated by careful serial sectional microscopic study. We might as well discard the microscope altogether if such were not the fact.

The question of malignant transformation of gastric ulcer is indeed a perplexing one. We all experience instances in which patients return with cancer two or three years after excision of an ulcer which was reported benign by the pathologist as in the following recent experience:

No. 2913/22. Male, aged 32 years, was admitted to the Lankenau Hospital, September 27, 1922. He had been a patient in the Hospital in November, 1918, with a three years' history of gastric disturbance, suggestive of ulcer, but lacking the clear cut history of the typical ulcer. At operation a livid area was found on the greater curvature of the stomach, a little distant to the pylorus. Subtotal gastrectomy with a posterior gastroenterostomy was done. The man remained well for two years when he began to have a return of digestive trouble. This consisted mainly of almost constant epigastric pain, aggravated soon after eating, and relieved by belching. The pain was dull in character, radiating through to the back and upward toward both shoulders. Vomiting occurred occasionally, but there had been intervals of 4 to 6 months without vomiting. The vomitus consisted of food, but never contained blood. Bowels are markedly constipated. Dyspnea and palpitation on exertion and loss of 40 pounds in weight in the past eight months were also noted.

Physical examination revealed tenderness on pressure and resistance over the entire epigastrium. A large mass was palpable in the mid-epigastric region. At operation, October 2, 1922, a large inoperable mass was found involving the stomach at the site of the previous section and infiltrating the posterior gastroenterostomy opening, which though small was still patulous. There was no evidence of hepatic involvement. An anterior gastroenterostomy was done and the wound closed. The patient has made a very satisfactory convalescence; he says he is relieved of the pain and the epigastric distress. I have had a number of experiences of this kind.

The immediate operative mortality of peptic ulcer will vary according to the type of operation done. At the Mayo Clinic in 4532 cases of duodenal ulcer the operative mortality was but 1.76 per cent., while in the 1191 cases of gastric ulcer the mortality was 3.77 per cent. At the Lankenau Hospital in 351 cases (1909-1920) of duodenal ulcer the mortality was 3.7 per cent. (13 deaths) while in 126 cases of gastric ulcers it was 6.4 per cent. (8 deaths). The mortality depends not only upon the type of operation but also on the condition of the patient when he is sent to the surgeon. All too frequently the internist and the general practitioner impress

patients with the operative mortality and then send them to us long after, as neglected, complicated cases, suffering from obstruction, perforation or hemorrhage. The internist when he speaks of the operative mortality, I am afraid fails to emphasize the dangers of delay and the risk of malignant transformation, perforation, hemorrhage and of recurrence of symptoms which almost invariably takes place. Of course neither are all patients entirely relieved after operation, but recurrences are certainly vastly less frequent than after medical treatment. Prominent among the causes of such recurrence (exclusive of marginal ulcer) is indiscreet diet and for this reason as I have already stated the appropriate time for medical treatment is not before but after operation. Persistence of symptoms in spite of all care and precaution, supplemented by careful roentgenologic study with demonstration of a mechanical disturbance should demand re-operation at once, since such mechanical defects can be relieved only by mechanical means.

Not all recurrent cases are due to marginal ulcer. Sometimes they are caused by the formation of a new ulcer. The danger of delayed surgery in these cases is well illustrated by the following example.

A male, aged 36 years, was admitted to the Lankenau Hospital in January, 1919, and after a careful study a diagnosis of duodenal ulcer was made, the ulcer was excised and a posterior gastroenterostomy was done.

The patient failed to get relief and five months later again presented himself for treatment. At this time operation consisted of releasing adhesions. The man remained comfortable for two months. In August of the same year he was again admitted, complaining of typical ulcer symptoms: pain three to four hours after eating; nocturnal hunger, relieved by food or alkalis. Medical treatment including duodenal feeding gave only slight relief. In April, 1922, he again presented himself for admission to the Lankenau Hospital with the same ulcer history. The diagnosis of marginal or a new ulcer or a second ulcer not found when the first operation was performed, was again made, but for personal reasons operation was postponed. Two weeks after his discharge he was seized with severe epigastric pain, accompanied by weakness, fainting, and vomiting of a small amount of bright blood. This brought him to the University Hospital under the care of Dr. Stengel. On admission, examination showed no special physical signs. The blood count was as follows: hemoglobin 70%; R. B. C. 2,850,000; W. B. C. 10,000. The gastric contents showed total acidity 26; free HCL. Lactic

acid positive. Occult blood positive. Traces of fat, no Oppler bacillus. A first urinalysis was negative for acetone and diacetic acid, but the second and third were positive for both. X-ray summary: The gastroenterostomy opening is patulous; pylorus also patulous, most of the contents passing through the former. No definite evidence of any organic lesion, although this is somewhat uncertain because of the rapid evacuation of the stomach, which was almost entirely empty at the end of one hour. There is no obstruction in the small intestine. Operation, on May 16, revealed an ulcer on the posterior wall of the stomach, adherent to the pancreas. The stomach was opened, the ulcer excised, and the abdomen closed in the usual manner.

Postoperative care consisted of liquids for ten days; on the fourth day there were added orange juice every hour with soda bicarb, grains 15, every fourth hour. The diet was then gradually increased to peptonized milk, two ounces, every second hour. Before discharge on June 20, the patient had been allowed solid food. Blood count showed: Hemoglobin 45%; R. B. C. 3,000,000; W. B. C. 9,500. The patient was in fair condition; there were a few squeaking rales in left lower chest, on inspiration and expiration. Abdominal scar almost healed; dressing still in place. Heart showed a systolic murmur over the body of the heart, heard best at pulmonic area.

Dr. Stengel has seen the patient several times at his office since then and reports that he is doing well.

One of the strongest arguments in favor of the surgical treatment of peptic ulcer is that a gastroenterostomy accomplishes permanently what the medical treatment does only temporarily. However, gastroenterostomy alone does not accomplish the same thing as when combined with excision, cauterization, pylorotomy or a subtotal gastrectomy. In fact, gastroenterostomy alone, except for cicatricial obstruction of the pylorus is only a makeshift and side steps the issue. The constant reflux of alkaline duodenal secretion into the stomach lowers the gastric acidity with the patient's own alkalies, and permanently offsets the effects of pyloric spasm or stenosis.

Gastro-jejunal ulcer unfortunately occurs in a certain percentage of patients who have had a gastroenterostomy done as part of the operative cure. Just to what this may be due it is impossible to say. However, I feel that if attention is paid to the avoidance of trauma due to the use of clamps over a long period at the site of the opening, to the suture material, and to the elimination of all possible foci of infection, this apparently unavoidable complication can be

partially eliminated. The last mentioned factor is of the greatest importance since we eventually find patients are hypersusceptible to ulcerations and that the same cause which was responsible for the original ulcer may be the cause of the secondary one.

Another very important factor which is too often overlooked by many of us, is the care of the patient after his immediate recovery from the operation. A patient who has had a gastroenterostomy for ulcer should not be allowed to leave the hospital without definite instructions as to his diet and habits of eating. This is another occasion when the internist and the surgeon in cooperation can accomplish results impossible to either alone. After operation, I have often had patients say to me, I can now eat any and everything, and more than ever. This is the answer to the importance of after cure.

In reviewing the advantages of surgery we must not forget that frequently ulcer co-exists with a chronically diseased appendix, gall-bladder or pancreas. These lesions can also receive the proper attention when the abdomen is opened, thus enhancing the patient's chances for permanent relief and well-being.

If you should ask me which operation I prefer I would answer, there are no hard and fast rules in any surgery, much less in abdominal surgery. Each patient who presents himself must be treated along the lines that give promise of the best results. The patient must not be fitted to the operation but the operation or operations fitted to the conditions found when the abdomen is opened. But in order to be a little more definite it might be better to say that other things being equal excision of the ulcer or cauterization by the Balfour method followed by gastroenterostomy, is the procedure of choice. However, there is a large *but* that looms up to modify this statement. Other things are rarely equal, and the powers, whatever they may be, that afflict mankind with peptic ulcers do not always place them where they can without great difficulty be removed, or as sometimes happens, in perforating ulcers the surgeon is spared the trouble of removing them, although I have observed the recurrence even of perforation in two instances.

I hope that I will not be misunderstood by you. There can be no doubt as to what surgery has done in disclosing the pathology of the living



in peptic ulcer. It has established a relation between ulcer and carcinoma which we must not ignore, for as Bland Sutton says, "the ulcer of today may be the cancer of tomorrow." It has shattered our former conception of chronic dyspepsia and gastritis and has helped us draw a line between the neuroses and the true pathological lesions. I have said before and repeat that the stomach tube is of as little value in the treatment of peptic ulcer as is the catheter in the treatment of prostatic hypertrophy. The results to be hoped for will come when everyone realizes that we are all here for one purpose—that is to help mankind. It is for you men who see the cases early to assist the surgeon while there is still a maximum opportunity for complete cure. To me it is extremely doubtful whether a true peptic ulcer, as distinguished from an erosion, ever heals under medical treatment. Surgery does not lay claim to 100 per cent. of cures, but there is sufficient evidence to say that 75 to 90 per cent. plus are cured or markedly improved by operation. Every ulcer patient who reads the signboard at the crossroads and chooses that road which takes him to medical treatment, assumes four risks: chronic invalidism, carcinoma of the stomach, or, rarely of the duodenum, hemorrhage and perforation.

#### DISCUSSION

DR. ARTHUR DEAN BEVAN expressed his enjoyment of Dr. Deaver's enthusiastic presentation of his point of view of the subject of peptic ulcer, and presented briefly the point of view that had been developed in his own work in clinical research which had been carried on during the last ten years in the surgical and medical departments of Rush Medical College and the Presbyterian Hospital.

He believed the subject of peptic ulcer was neither medical or surgical but a big scientific problem that all were trying to learn the truth about. Certain things had been learned in the last twenty years but prior to that time nothing was known about duodenal ulcers and most of the knowledge of gastric ulcer came from the postmortem table. Today it could be said beyond any question of doubt that a peptic ulcer in the duodenum or stomach could be cured in exactly the same way that an ulcer of the leg could be cured. An ordinary varicose ulcer the size of the duodenal or gastric ulcer could be cured in ten days or two weeks if the essential cause was removed and the patient placed in a condition where healing could take place. If the interference with return circulation was eliminated and the patient put to bed with the limb elevated the varicose ulcer could be cured.

Any dressing would do if the cause was eliminated. Making a parallel between this and an ulcer of the stomach, if such an ulcer could be placed in condition where the cause which maintained and continued the process could be eliminated, in the great majority of cases the ulcer could be cured and the tissues would go on to complete healing, the cavity being filled up by granulation tissue in exactly the same way that the leg ulcer was cured. This could be done by a jejunostomy and placing the part absolutely at rest, feeding the patient through the jejunostomy tube for a number of weeks, but it is not necessary to do a jejunostomy in every patient. There has been developed a perfectly sound and scientific management for the ordinary peptic ulcer, rest of the part, bland diet and rest of the individual. The removal of the essential cause that maintains the ulcer, the acidity of the gastric juice, can be accomplished by the administration of alkalis. He believed it true that every once in awhile an ulcer would prove refractory where conditions for healing were very poor.

Applying the Golden Rule, what would John Deaver want done if he had an ulcer? He would want in the first place to be placed in the hands of a thoroughly competent internist where he could be given the benefit of modern scientific treatment for ulcer, and the chances were that he would be back at work in the Lankenau Hospital in three months, and if he behaved himself and did not eat too much and work too much he could maintain the cure with a great prospect of certainty.

Dr. Bevan believed it true that there are certain definite indications for surgery and that possibly some of the medical men are not willing to give these indications as much consideration as they deserve. In a common-sense way 90 per cent or more of duodenal ulcers that are refractory to medical treatment will heal under gastro-enterostomy, they do not require resection and there is little danger of carcinoma. Old, calloused, gastric ulcers that come to the surgeon should be resected. The Bilroth resection gives excellent results with a mortality of not more than 2 or 3 per cent, and the danger that one is dealing with a potential carcinoma is the big argument for doing the resection.

He did not agree that in a large proportion of the cases carcinoma of the stomach is preceded by ulcer, but there is a possibility that ulcer may furnish the base for a carcinoma. What is more certain, in his opinion, is that it is a carcinoma from the beginning that resembles an ulcer.

He believed the time had come when by good medical management and good surgical management in the individual case where it is demanded an enormous amount of good service can be rendered in handling these cases. In no field of surgery is there being done more brilliant work than in the field of peptic ulcer and carcinoma. When the ulcer does not heal under medical management it furnishes a means of diagnosis. That case becomes a carcinoma

suspect and great good can be done by careful study of the patients and giving them the benefit of the radical surgical removal, which gives a great deal of prospect of permanent cure.

DR. ALFRED A. STRAUSS was much interested to hear that Dr. Deaver's views had not changed from those of eight or ten years ago. At that time Dr. Strauss read a paper demonstrating a method of excision of gastric and duodenal ulcers and Dr. Deaver agreed with him in the importance of such excision. The speaker believed that the sub-acute ulcer, up to the point of infiltration, was a medical condition and that many of them would heal under proper medical management. When the ulcer penetrates into the wall of the duodenum or stomach very few will get well under medical management. He believed the economic condition of the patient should be considered and that it was not right to take a man in moderate circumstances and keep him in the hospital for weeks under medical management when he could be cured in a short time by surgical measures.

In peptic ulcers he thought the practical point was not whether an ulcer will become a carcinoma or whether it is a carcinoma from the start. This cannot be definitely determined without microscopic examination and he thought no medical man wished to treat a carcinoma medically. Until some test is discovered for determining this without operation he believed all such cases were surgical. When one considered the pathology that might go under medical treatment, the hemorrhage, perforation, and the possibility of cancerous degeneration, he believed everything was in favor of surgery.

As to the type of surgery, he believed two great principles were necessary to cure a patient surgically of a gastric lesion; first, the pathology must be removed and, second, the stomach or duodenum must empty in less than normal emptying time. If this is done the patient will be cured chronically and will need very little attention from the medical man afterward. The ulcers in the first and second portions of the duodenum, down to the ampulla of Vater, should be removed by block resection; by making a resection of the duodenum closing off the stomach and then doing a posterior gastroenterostomy, or Polya operation. The ulcers on the lesser curvature he thought did not need to be resected by a high gastrectomy or sleeve resection but that the lesser curvature could be easily resected by a longitudinal resection which he had devised. He had performed this operation with exclusion and obliteration or resection of the lesser curvature on nine patients, with excellent end results. (Presented a series of lantern slides demonstrating his method of operating.)

DR. E. S. BLAINE said that to those who confine their work to x-ray study of the lesions under consideration it was a comfort to hear Dr. Deaver place the x-ray aspect in the light he did. Careful x-ray study should be stressed, in view of the slipshod work done in many places. There are three kinds of Roent-

genologists; one, the enthusiast about the fluoroscope; two, the enthusiast for the multiple plate manifestation of lesions of the stomach; three, he who uses both, giving full value to the advantages of each. Cole of New York is probably the foremost exponent of the 30 to 50 exposures and minimizes the screen. Carman uses the screen and the great majority of his patients never receive a plate exposure. Between these two he believed there was no choice; both are necessary. The over-enthusiasm for any particular method should be avoided and one's faith should be pinned to the one who is thorough and will give full value to both methods. Thorough careful work will reveal many lesions of small size which are overlooked by precursory examinations. The peculiar quantity of x-ray projection gives merely silhouettes and many silhouettes are necessary in order to thoroughly explore the stomach. A thorough study by the x-ray will reveal any lesion except those of microscopic size and no one should expect those of microscopic size to be shown. The ulcers in front of or under the lesser curvature are difficult to find, but recently he has been finding a good many of the ulcers posterior to the lesser curvature. It is true that there are a good many secondary signs of these ulcers, but it takes a trained eye to detect them.

The polygram which may be used by those who wish to reduce their expenses removes the excuse for not doing thorough work. The polygram makes as many exposures as one wishes to take in the time the patient can suspend breathing.

The question of mucous erosions was a difficult one and a small percentage of ulcers would not be demonstrated by the open and shut method showing the little knob on the lesser curvature. He thought it fortunate that 90 or 95 per cent of the gastric ulcers occur on the lesser curvature, and believed this method would reveal them in a greater majority of instances than some doubting Thomases were willing to admit.

DR. BERTRAM W. SIPPY agreed with Dr. Deaver when he deplored the too frequent practice of giving magnesium oxide and other alkalies in the dispensary without due attention to the living conditions of the patient. They are often administered in such a manner as to deprive the patient of such beneficial effect as may be attained by proper treatment. It has been generally stated that peptic ulcer occurs only where gastric juice flows. Local malnutrition of the stomach or duodenum is an essential factor in the production of ulcer, the destructive action of the gastric juice on such areas contributing not only to the presence but the chronicity of the ulcer. It had been well recognized that ulcers produced experimentally heal rapidly and it is known that tissue that is well nourished is able to resist the irritating action of gastric juice. It is equally well known that when the vitality is reduced the peptic gastric juice may produce pathology. With perforation and a loss of vitality the action of the gastric juice hinders healing. In all the cases he had under

treatment he challenged anyone to find a single case after the second day that had ever perforated or that had ever had a hemorrhage. The defect disappears under proper management and at the end of four weeks it is gone. The ulcer is not healed but the tissue has become pliable and the lesion will go on to healing. There is a technic in the medical management the same as in a Deaver operation and if the proper technic is not carried out it will fail. Dr. Bevan had presented the subject as they saw it. Their conclusion, based on experience of many years with ample facilities for carrying on the work, was that these cases did not demand surgical treatment. He agreed that there were definite surgical indications in some instances,—a perforation, any reason to suspect carcinoma, certain cases of hour-glass stomach with interference with motility, in such well recognized cases no one doubted that surgical treatment should be instituted at once. With those cases put to one side, and when the x-ray failed to reveal the deep infiltrating ulcer, the vast majority of cases would recover under medical management.

As to whether medical or surgical methods should be introduced depended upon the type of surgical management that was available. Here the skill of the surgeon is a great factor. For men of Deaver's experience the mortality is relatively low. The second factor was influenced by the type and effectiveness of the medical management that was to be used. It is recognized that rest, the type of food and the treatment of constitutional conditions is important, but there is every evidence to show that proper conditions cannot be brought about without removing by alkalization the greatest factor in the hindering of healing. If the patient was kept in bed with merely a little soft food and a little magnesium to control the pain he would admit that the vast majority of those cases might be treated surgically by a man of Deaver's or Bevan's skill, but they could be treated accurately in a way they knew would bring about healing.

As to mortality, at a symposium on the end-results of peptic ulcer held last May a mortality of 6 to 9 per cent was given by the experts who took part in the symposium. If this is true, largely from the operation, what could be expected from men who try to imitate these experts? Unfortunately, Dr. Deaver and his type of men operate on relatively few of the ulcers in the world and if anyone raised their voice and said there was no method of healing except surgery the mortality would be very great.

DR. FRANK SMITHIES said that he had listened to and taken part in many such discussions, that he was familiar with the literature of all time, that he had had a large experience and had come to the conclusion that there were so many phases to peptic ulcer that were not understood that many of the conferences got nowhere. In reviewing the literature he had found that with the exception of certain surgical modifications no real contribution had been made to the treatment of peptic ulcer in many years. The

alkalinization was complete before the use of the stomach tube and at that time the mortality was given as about 6 per cent and the cure as 70 per cent. Then came the surgeons and handled a number of complications and treated ulcers by radical surgical method, with 70 to 75 per cent cures, which meant that these radical measures did not vary 2 per cent.

He considered peptic ulcers as local manifestations in the stomach of a general constitutional upset and believed that any attempt to treat the local gastric condition was an attempt to treat certain complications which occur in the course of a constitutional affair. He believed Dr. Deaver was right in the type of ulcer he treated and that Dr. Sippy with his method of diagnosis was right in the type of patients he meets and treats but if one could put a tag on the patient with a gastric or duodenal ulcer and keep it there until he came to the undertaker he would find a very interesting history. The surgeon has the advantage of the medical man because he can see and record what condition is present while the medical man cannot keep such a complete history. Relief of symptoms is considered as cure. Peptic ulcer is an intermittent type of disease until complications come on. We should realize first of all that we do not know much about peptic ulcer. We should not promise a cure either by medicine or surgery but treat the patients and keep them under observation. The best type of medical man is the one who can keep track of his patients and send them to the surgeon when necessary. The next thing is to get rid of the old ideas concerning the gastric juice. Dr. Smithies treats his patients non-surgically by surgical methods, putting the part at physiological rest. He uses no stomach tube and no alkali. The danger of frequent alkalization has been repeatedly impressed by many authorities and he believed too much alkalization as bad as too much acid. If the part is put at physiological rest for thirty-six to forty-eight hours there is no acid secretion. If the case shows a definite deformity by the x-ray examination the surgeon should be given a chance to get rid of a potential cancer if in the stomach and of a potential perforation if in the duodenum.

DR. A. J. OCHSNER, speaking of the feature of carcinoma, stated that in all parts of the body the advent of carcinoma is preceded by inflammation and irritation. The fact that there are so many ulcers of the stomach and so few carcinomas has impressed the profession that possibly the ulcer has nothing to do with the advent of carcinoma. He believed one might as well say that because so many soldiers go into a war and so few are killed the war has nothing to do with those that are killed.

Another error has crept in where carcinoma has been demonstrated at autopsy or at operation and they find in these histories no reference to previous ulcer history. This meant simply that the history had been carelessly taken. He had demonstrated in his work in looking up the histories that attention had not been focused upon that feature in the history. He be-



lieved that in almost all cases where a careful history is taken a carcinoma patient gives a typical history of preceding ulcer. He cited the case of a patient seen twenty years ago who had nearly died from a perforation. At operation they found a large indurated ulcer. They thought it would never get well but they did a gastroenterostomy as the best means of relief. Two years later the patient had an extrauterine pregnancy and when he operated for that condition he found that the ulcer had entirely disappeared.

DR. JOHN B. DEEVER (closing) thanked the gentlemen for their discussion. He was not in accord with all that had been said but thought every man had a right to his own opinion and was glad they had expressed it.

He did not agree with Dr. Bevan that peptic ulcer could be treated like a varicose ulcer of the leg and cured in the time stated. He thought they must have very simple ulcers of all kinds in Chicago if this was the case. In Philadelphia they have the real thing.

He also did not agree with Dr. Sippy regarding frequent alkalization. This may bring relief for a short time but the patient soon returned with the same old story. He took exception to any man who made a diagnosis of ulcer without x-ray examination, and defied any man to make a differential diagnosis between appendicitis with the appendix in a high position, cholecystitis and other conditions without this aid. He did not believe half of the cases treated as ulcer were ulcers, and made this statement because he was constantly seeing such cases. He believed the only way a proper diagnosis could be made was with the belly open, when truth will be revealed and doubt dispelled. If he had an ulcer he might rush to Sippy for one course of treatment but if he had a recurrence he would run away from Sippy. He knew that Dr. Sippy was doing a great work but believed, if he had not verified his diagnosis by sight and touch, that he was treating many cases that were not ulcer.

He himself has seen many errors in diagnosis made by the x-ray men regarding deformities of the duodenal cap as indicative of ulcer. When the patients come to the operating table these are always found to be due to adhesions.

Dr. Strauss he thought had devised a very ingenious operation, for which he was to be congratulated, but Dr. Deaver thought it a little too difficult for him to tackle. His best surgery was done with the fewest instruments and his fingers, but in the hands of Dr. Strauss anything was simple and he was glad of the enthusiasm shown by the young men.

He thought Dr. Smithies hit the keynote to a very large extent with regard to the history of ulcers, and also with regard to the internist's following up the cases.

He believed in Dr. Ochsner and in everything he said, because what he said he has learned in his great experience in the operating amphitheatre.

A rising vote of thanks was extended to Dr. Deaver for his courtesy in coming to address the Society.

## THE MANAGEMENT OF MATERNITY\*

WM. D. CHAPMAN, M. D.

SILVIS, ILL.

While the management of maternity dates from the generation preceding, for purposes of discussion it must be limited to a more definite period. The obvious delineation is that period which elapses between the date of conception and the end of the puerperium. During this time certain body changes of structure and function are normal and certain pathological aberrations are peculiar to the period.

If these few assumptions may be granted, then the safe conduct of a patient through maternity depends upon two things: first, the anatomical capacities and the functional powers inherent to the body itself; and second, the accuracy with which the manager of the patient observes, interprets, co-relates, and treats aberrations peculiar to the period or arising during the time.

The management of maternity is the practice of medicine inasmuch as the practitioner of medicine does just those things for the entire span of life: he observes and interprets and co-relates and treats and, in each instance, the objects of his attention are human anatomy, physiology and pathology.

To demonstrate that proposition before this body would seem gratuitous were it not for the fact that we have evidence of much confusion on that point among members of the medical profession. I believe that members of the profession have never advocated the training of midwives with the idea that the conduct of labor by a partially trained group might be a scientific advance but it is true that they have claimed it to be an economic necessity. I believe none have advocated the training of nurses as community instructors in the hygiene of pregnancy with the idea that their miscellaneous public teachings might have sound value without being tempered by training in the art of observing and interpreting scientific facts and functional aberrations; but it is true that members of the profession have lent aid to such programs when sponsored by reformers deficient in the ability to appreciate the character of the questions involved or the enormity of teaching without understanding. Without training in interpretation and co-relation

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such teachings must always be dogma while, with that training, an excellent class of practitioners would have been created who would know that the community teaching of the hygiene of pregnancy is the teaching of general hygiene and that, beyond that, all teaching and all management must be individual. It is so for the reason that practitioners outside the laboratory never deal with pathology but with emotions plus pathology.

The dogmatic teaching of fact pre-supposes absolute knowledge. The partially trained may impart it to the untrained as such but the profession whose tenets we strive to uphold, knows that in matters of practise we are not possessed of absolute knowledge, but only of relative knowledge.

These two classes as trained today have a limited field of usefulness. The teachings of modern medicine can grant to them unqualified approval only when they appear in the role of assistants.

The emotional complex of the patient in maternity makes additional difficulties of interpretation which preclude the advisability of assistants working without some degree of personal contact between the patient, and the supervisor, trained in evaluation as well as in anatomy, physiology and pathology. Some reports may be satisfactorily made by mail or by telephone but, in every instance, there are times when personal observation and individual responsibility are necessary.

It is not my purpose at this time to discuss matters of legislation but, I do wish to invite the attention of the medical profession as here represented, to the fact that all the scientific knowledge in the world can have no value to the woman in maternity unless attention be given to the art of holding the individual patient still while we administer the dictum of science.

Maternity care in the United States will continue to be accomplished in the home and the small hospital and will continue to be considered by the patient and her family to be an individual concern and a private, family matter; this, in spite of the radical proposal that instruction be issued to these women as a class and that the teaching emanate from bureaucratic Washington.

The response to instruction will continue to be in proportion with the receptivity of the audience.

Maternity carries no public menace and there-

fore cannot be properly made a subject for police regulations which mark the management of contagious diseases. Without that factor of danger to a neighbor, a government which is to live cannot dictate family opinion or procedure in the home.

The responsibility of the medical profession in this matter is great, for the members of the profession are alone in the understanding that, in matters of practice, none of our knowledge is absolute. We know that we are possessed of relative knowledge only; we know that what we teach as relative, what we advise as the best possible in view of our limited information, is repeated as dogma. We know that group-thinkers, the so-called saviours of the proletariat, teach medical wisdom which is untrue and believe it to be fact because they have it from the pen of perhaps the greatest authority in the land. We have not yet been forced to learn the magnitude of the harm accomplished but the progression is such that today we stand guilty of willful neglect in not having gone to our public with a statement presented in adequate fashion.

Our learning is progressive. We may teach for a time that puerperal sepsis is of extraneous origin, dependent upon faulty technique in the conduct of labor; and when we have spread that gospel thoroughly the old theory of hematogenous infection may rise like Banquo's ghost to confront us, never disproven and probably true. Our limited knowledge of physiologic processes may give us pause and so influence our practises that we endeavor to give due care to both possibilities. The error of having taught one as absolute would be apparent. To weigh and to consider and to act upon such problems of practical application is not the province of government nor of group workers whose limited training has led them to accept one teaching or the other. To argue such a question in the halls of Congress or before a lay jury would be imbecilic endeavor and yet each patient is entitled to the best judgment of an informed mind.

In view of which, the plea of Glenn Frank that a scientific profession should learn to "think of health in terms of a nation" becomes a paradox and more. To think of health in terms of a nation is to think of a building in terms of a city. There is a type of mind which does that, whose reaction to the stimulus word "Building" is a vision of row on row of immense structures

with gaping windows and, in the foreground a chasm—deep—its bed sprinkled with moving specks, and from which arises noise. There is another type of mind whose reaction differs. At the stimulus word "Building" a carpenter or a mason sees bricks and flooring and doorknobs and studding and nails and mortar; and this is the more constructive vision. These men can build but never, by edict of government, can they teach the other group to build.

The members of this society are the men and women who have managed the maternity of three states and these members have not reacted to the word "Maternity" with any vision of throngs of mothers and babies—all smiling. They have reacted with visions of detailed problems involved in the care of maternity and they know that, after all the centuries of effort, this management is still building bit by bit.

To these people who can build, the vaporings of community management enthusiasts are a foreign language; and yet they are of live interest.

Beginning with the day when the diplomas of reputable medical schools were vised and approved by boards of political appointees, the direction of scientific learning and the prescribing of methods for the art of its application have been increasingly assumed by legislative and lay bodies until many people have grown to believe that to rule it so is to have it so. The fallacy of so disastrous a belief rests as a heavy responsibility upon the general practitioners, the men who have been termed the "submerged ninety per cent." of the medical profession, the men who observe patients at home and whose economic observations and judgments thus grow from the primary foundation rather than from the distorting environment of a large clinic or hospital.

In so far as the profession has been led to give tacit approval to plans for the empirical administration of impossible teachings by partially trained group-instructors, we have degenerated and failed of our heritage.

For a five-year period this failure has imposed upon our public an act which is described by a member of its administrative bureau, Dr. Anna E. Rude, in the *Journal A. M. A.* of September 16, 1922, as an Act for the furtherance of Midwifery in the United States. The words of Dr. Rude presumably carry the weight of authority for she speaks to the A. M. A. for the bureau.

I quote Dr. Rude, in stating the purposes of the Bureau under the Federal Maternity Act, page 959, "Unprecedented attention to the registration of midwives, as well as to their training and supervision, is contemplated in many states in which previously this problem has been entirely ignored." And again, buried in some two columns of midwifery discussion, we find on page 961: "Midwives in England have been trained and licensed since the Midwives Act became a law in 1902. Between 1902 and 1914, the maternal mortality from puerperal septic diseases in England and Wales has decreased from 118 to 75 per million female population."

It seems to me that the clearly intended inference of that unique couplet is that the midwives did it.

Dr. Rude is the Director, Division of Hygiene, United States Childrens Bureau.

We are not relieved of responsibility until we shall have overcome a popular belief that the proposed teachings are absolute truth, bearing the endorsement of the workshops of science. The truth is that some of these teachings were good relative conclusions at the time of their promulgation and that at the best, the secondary instructors are usually a decade behind. As long as the field of physiology harbors the vast area of unexplored jungles that it does today, teaching must be relative and interpretation and correlation must be individual.

Now, when it is proposed that praiseworthy teachings and practise be taken from the hands of those able to use them at an approximate true valuation and broadcasted in an unwise manner by people with no conception of relative values, then it is time when we must revert to the old established idea that hard work and detailed drudgery are necessary to success; and that the expert use of the five human senses is a prime factor in the diagnosis and treatment of maternity ailments for each individual case.

The public has been taught to believe that the medical profession treats with medicine or with surgery, one or both. If they were taught that every remedial measure ever proved to have value, through all the generations of history, was included in the armamentarium of the profession then we might expect less of meddlesome interference with the management of physiologic conditions and aberrations.

We should now ask that the men who are pos-



sessed of understanding train their people to believe that generalities in education or treatment are always faulty, that the radical proposal for government help in an extra-governmental matter is certain of failure because it attempts to build from the top down, that we must distinguish between the necessary autocracy of emergency management and the necessary conservatism of normal living. And in addition, I ask that any member of the profession who is still "sold" on any grandiose plan for group maternity welfare consider this, an idea which is born of plodding inquiry at the source: maternity patients will continue to regard their problems as individual and to prefer sympathetic understanding to machine-like efficiency. These people will accept the benefits of scientific information if made to suit their taste but they cannot be compelled and, in matters of practice, when scientific knowledge conflicts with human emotion and the emotion is not controlled, then so much the worse for science; and consequently for the patient.

We should endeavor to remedy our faults. If our neglect of the puerperium is so general as to constitute a scandal or if bad judgment in the conduct of labor has wrecked an undue proportion of women, we should be the first to acknowledge and to decry. But the remedy would lie within the profession and be a matter of work, and public good is not to be had through the legislative fostering of illy-equipped mid-wives or other practitioners, or through the rantings of lay reformers, except in so far as such measures stimulate us to see and correct our own shortcomings. Any attempt at the Socialization of Physiology will fail but very great harm may result from the attempt.

136 Ninth Street.

## THE RELATION OF THE NOSE AND THROAT TO EAR DISEASES\*

GEORGE E. SHAMBAUGH, M. D.  
CHICAGO

Otology is intimately connected with rhinology. Men practicing otology are now prepared to take care of nose and throat conditions. This is as it should be and is a much better arrangement, than where the ophthalmologist undertook the treatment of ear diseases leaving for the laryngologist the care of nose and throat

disorders. That ear disease is often caused by diseases of the nose and throat is too apparent to require any special emphasis. It would not be amiss, however, to point out just what ear diseases are caused by nose and throat disorders and to make a clear statement of just what nose and throat conditions are capable of affecting the ear.

In the first place, it must be clear to all that it is only the diseases of the middle ear that are primarily related to nose and throat troubles. Internal ear disease is never caused directly by nose and throat conditions if we except the possibility of degeneration of the eighth nerve occurring as the result of focal infection. The most frequent example of the relation between middle ear disease and nose and throat trouble is in the occurrence of acute otitis media secondary to acute inflammatory reactions involving the membranes of the nose and throat. Acute otitis media is rarely encountered as a primary disorder. Another form of middle ear trouble which is directly dependent on pathological conditions in the naso-pharynx is the condition causing tubal occlusion observed so frequently in school children and caused by hypertrophy of the pharyngeal tonsil. This same condition occurs, but of course less frequently, in adults sometimes as the result of an acute pharyngitis or because of the persistence of lymphoid hypertrophy in the vault of the pharynx. This form of middle ear trouble is one of the earliest as well as most constant symptoms resulting from malignant growths having their origin in the fossae of Rosenmueller. Occasionally the simple type of chronic suppurative otitis media when the disease involves only the mucous membrane lining the middle ear chambers, but does not extend to the underlying bone is kept up because of the pharyngeal tonsil. In exactly the same way cases of tubal occlusion persist and develop into the chronic adhesive processes in the middle ear, causing permanent disturbance in hearing because of neglected hypertrophy of the pharyngeal tonsil. Such conditions occur not infrequently where the hypertrophy of the lymphoid tissue is located in the fossae of Rosenmueller and does not cause any impairment of nasal respiration.

When we have covered these conditions we have included practically all of the relations that occur between middle ear disease and nose and throat troubles. With the development of a

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fuller appreciation of these relations between middle ear disease and nose and throat trouble there has developed a tendency to associate etiologically the occurrence of middle ear disease, including the more or less insidious form of adhesive middle ear catarrh with the occurrence of certain anatomical variations commonly found in the nasal chambers. I refer especially to the anatomical irregularities in the nasal septum which may or may not be causing symptoms of obstruction to nasal respiration. It has long been the practice of many otologists to advise the correction of these irregularities even where they are causing no nasal symptoms because of their supposed injurious action on the middle ear. The theory being that these irregularities of the septum even where they are not producing symptoms of nasal obstruction constitute an active cause of middle ear disease through mechanically altering the normal air currents in the naso-pharynx.

I have for many years been studying closely this problem and have become thoroughly convinced that anatomical variations in the structures in the nose either by producing obstruction to nasal respiration or by altering the air currents in the naso-pharynx have no effect on the course of middle ear disease. This conclusion is based on the following clinical observations. In the first place, I have never been able to discover any evidence that the correction of such variations has influenced in the slightest the course of middle ear processes. As a matter of fact, irregularities in the nasal septum are the rule while the anatomically straight septum is the exception. The most convincing evidence that alteration in the air currents through the nose or actual obstruction to nasal respiration take no part in the etiology of middle ear disorders is to be found in those cases of congenital atresia of the choanae where the passage of air through the nose on one or both sides is completely blocked. I have had the opportunity of studying two such cases. In both there was a complete absence of any middle ear trouble. Of all cases of this sort so far reported there has not been a single instance where there was any disturbance of the middle ear.

It is time for otologists generally to recognize more definitely the limitations of the proposition that conditions in the nasal passages may be the cause of middle ear disease. While all of us are

properly anxious to do everything that can be done for patients with increasing deafness, we are equally anxious of avoiding unnecessary treatment, especially where this involves surgical interference.

#### DISCUSSION

Dr. Robert Sonnenschein, Chicago: You will pardon the trite expression when I say the diseases of the nose and throat which influence the ear fall into two classes—the inflammatory changes in the nasal cavities, the adenoid tissue, or tumors in the naso-pharynx, and in the pharynx itself the large or infected tonsils. Of the infectious and inflammatory type would be the suppurative conditions found in the nose, the accessory sinuses and pharynx. Dr. Shambaugh has rendered excellent service in calling attention to the fact that too much importance must not be placed upon mechanical conditions in the nose as etiological factors. I believe when the nose is much obstructed and when you have much hypertrophy of the posterior end of the turbinate it is responsible for interference with the Eustachian tube. The most important thing to me is the fact that you must know the kind of ear condition you have before you can attempt to treat it by way of the nose or in any other manner. As Dr. Shambaugh has pointed out, it is the middle ear changes that are affected by these conditions. If we know anything of the pathology present, we certainly cannot expect to derive any benefit in a case of otosclerosis or any adhesive process in the middle ear, by working on the naso-pharynx. We must first determine the condition that is present or we cannot do good work in any part of the body.

Dr. Oliver Tydings, Chicago: I was very much surprised to hear Dr. Shambaugh say that nasal obstruction cannot affect the middle ear. I have three cases, one on the Pacific Coast and one here, of otosclerosis, that I have had under observation for years. One of these was the first case of submucous resection that I ever did—I did not mean to do it. The one on the Pacific Coast hears well, and the one here better than twenty years ago. I think Dr. Shambaugh has touched the key note in the relation of the reflexes originating in the nose and throat in keeping up middle ear disturbances but how to correct them without removing the cause he has failed to tell us. I believe if the condition or irritation is kept up that it will undermine the hearing unless relieved. A human being cannot improve and be at his best physical condition when he is uncomfortable. I think all of these conditions should be corrected. Every source of irritation should be removed, straighten the septum, drain sinuses, clean up the throat, and you will find improved conditions where you least expect them.

Dr. Edwin McGinnis, Chicago: The connection between the ear and naso-pharynx and the nose and throat is the Eustachian tube. Dr. Shambaugh at our last meeting of the Laryngological Society showed that there is little connection in the blood supply between the internal and middle ear, so that obviates any infection from the naso-pharynx to the inner ear,

and that eliminates any infection through the nose. Why do we operate on the nose? Not for the sake of chiseling off spurs. My preceptor used to design instruments for chiseling off spurs. The reason we operate is to get more space in the olfactory region and so get better drainage in the antrum, the ethmoid and frontal sinuses. It seems to me in thinking this matter over, that there is much truth in an article by Dr. Emerson of Boston, who said there was a specific microorganism that attacks the ear. In purulent conditions of the ear there must be microorganism present that will produce pus. We are making a little investigation of the infecting organisms and we find a certain strain of staphylococci that, injected into animals, does not produce focal abscesses. What you get is a round cell infiltration, a spreading of the normal cells, and it seems to me if this goes on indefinitely you might get otosclerosis.

The thing we want to impress on our patients is that in operating on the nose we seek to normalize the nose so that it can take care of itself. In doing this we do not promise our patients too much. The time to operate is when we have enough ear function so that it is not destroyed. I do not quite agree with Dr. Shambaugh that there is not much connection between the nose, the ear and the way we operate upon them.

Dr. O. E. Fink, Danville: In the examination and functional test of large numbers of soldiers both during the war and since, the majority of those who complained of so-called otitis media chronica showed more trouble, in my observation, on the side where there was the largest breathing space than on the obstructed side.

Dr. Harry L. Pollock, Chicago: I believe that all points of irritation in the nose should be removed in the beginning, whether it is a slight spur or slight deflection, but after the pathological changes have taken place in the tube I do not think any treatment is going to affect it if it is purely catarrhal ear trouble. I do not think the changing of the air current has anything to do with the deafness, but think it is a mechanical condition which is set up by the spur or deflection coming in contact with turbinates and the inflammation extends through the Eustachian tube up into the middle ear and in that way we get the secondary contractures. If you take the patient with the first symptoms and operate on the septum—we all know tonsils and adenoids have a good deal to do with the middle ear, and in the secondary contractures we do get results, but after scars have once been formed I do not think any operation on the nose has any effect whatsoever.

Dr. John A. Cavanaugh, Chicago: I thoroughly agree with Dr. Shambaugh that after certain changes have occurred, around the oval and round window, there is not much chance for improvement. Patients with frequent head colds and allowing them to run their course, are the cases that need care. Each of these colds leaves a mark behind, and these cases produce congestion around the oval and round window. If you get these cases early and remove the cause you

can benefit the hearing, but after the secondary changes have taken place, improvement is slight, if at all.

Dr. J. Sheldon Clark, Freeport: I think we are too prone to operate on the septum or turbinates in our endeavor to establish free breathing. At the very start, our examination should include the inspection of the vestibule of the nose. If we will do this systematically, oftentimes we will find at the entrance a deflected columnar cartilage, a spur, or that the alae collapse upon the septum and thus close off the space at the anterior nares. Good results in these cases can be had by a simple plastic operation and for this condition of sunken alae, I have found nothing better than the making of an elliptical incision, removing a section of tissue and then placing two or three sutures. This gives excellent results and has the effect of throwing the alae upward and outward and thus enlarging the chamber.

Dr. Joseph C. Beck, Chicago: I want to ask Dr. Shambaugh whether the argument he brings of complete occlusion of the nose is correct from the physical standpoint. The fact that there is no nasal respiration in the new born child is no reason why the ventilation of the middle ear cannot go on by way of the mouth. It is entirely different with occlusion partial or total plus infection or irritation after an individual has had normal nasal respiration. These are cases where the nose plays an important role as to causation of deafness or hard of hearing. We all agree that it is unnecessary to remove septa or other obstruction when the case has progressed too far.

Dr. C. D. Thomas, Peoria: I will not go into the pathology or the symptomatology. The thing that counts is the result we get in our every-day practice. How is the patient pleased? What result have we given him? I do not like to disagree with Dr. Shambaugh. He and I were close friends and students for many months years ago, under Prof. Politzer in Vienna. But an experience of over twenty-five years has taught me that you can get results, good results by proper attention to the distortions in the nares if you do your operative work skillfully and early before the case has progressed too far. I am sure I could accumulate and show case reports of innumerable cases that have been decidedly benefited by proper operations in the nose, removing pressure and giving good ventilation. If we can positively show cures by this procedure, why then should we not believe in it? Practice is far better than theory. I am not willing to desert my cases and say there is no hope as long as my experience shows me that there is.

Dr. George E. Shambaugh, Chicago (closing): It is always interesting to listen to differences of opinion on our every-day problems. Answering the remarks from Dr. Beck: The cases of atresia to which I am referring are those where the occlusion is bilateral and also in unilateral cases. In none of these does there appear to be evidences of middle ear trouble. Tubal occlusion occurs very readily from post-nasal hypertrophy and where such exists, this condition should always receive proper attention. The thing I am objecting to is the



idea which many seem to possess that when a patient suffering from progressive deafness presents himself and it is apparent that treatment of the ear is not going to improve the defect, then one must land on something else, and the nose being nearby, becomes the scape-goat and receives a lot of unnecessary treatment for a defect in the hearing which is not in any way dependent upon nasal conditions.

One hears the statement "Stop the development of ear trouble before it begins," and with this idea many proceed to operate upon the nose. Now here is the situation. At least 90 per cent. of all individuals have more or less pronounced anatomical irregularities in the nasal septum. Not more than one or two per cent. have any middle ear trouble. Does this look as though these irregularities of the nasal septum are an important etiological factor? Not at all. This operating upon the septum under these circumstances is like grabbing at a straw and has been responsible for a deluge of unnecessary, indiscriminate operations.

One speaker referred to a case of otosclerosis on which he had operated twenty years ago and where the hearing today is better than it was before he operated. Now there is but one reply to a statement of this sort and that is that his diagnosis of otosclerosis is incorrect. We all know that the changes that take place in otosclerosis are permanent changes and cannot in any way be influenced by treatment. The one salvation for otosclerosis, as I see it, is to find out more definitely what is the underlying cause and by correcting this, forestall or retard the development of the defect, but where changes have already taken place these are permanent, and no treatment, operations, or otherwise are going to result in an improvement in hearing.

### CHRISTIAN SCIENCE FROM A MEDICAL STANDPOINT\*

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It seems safe to say that the average physician has little real knowledge of "Christian Science." He has been led to regard it as a religion of no great interest to him. On the other hand, it was called a "system of medicine" by its originator, and is now used for the treatment of hundreds of thousands in the United States. This makes it evident that the real character of this "healing art" should be well known by medical men.

History points to the "healing" character of the doctrine from its very origin. In 1861, it is said, a certain Dr. Quimby, who was called a "spiritual healer," received a new patient,—

a lady destined to cause a stir in the world. She had suffered for years from a nervous disorder, vaguely described as "spinal" in a letter written by her second husband, who was a travelling dentist. The patient was greatly benefited by "Dr." Quimby. He explained to her how she might lessen her suffering through mental, or rather "spiritual" control. He taught her much about "mind" and "matter" and "disease," and evidently supplied her with many of the terms and ideas that appeared in her texts in later times. She remained his devoted follower for years, until one time when she needed his services, but he could not come, for he was dying. Thrown on her own resources, she found that she could apply the treatment to herself. Upon convincing herself that matter and disease do not exist, she felt that she was "cured," and in this way she laid the foundation for her future prosperous practice.

In spite of these historical events, Mrs. Eddy persistently stated that her system had been derived wholly from the Scriptures. ("Science and Health," Latest Edition, p. 126.) She evidently forgot that the Testament does not discuss "mind and matter," which are the chief topics of Mrs. Eddy's works. It is clear that many of her theories arose from a far different source: From childhood she had ambitiously read serious works, but had tried to master some that proved too deep for her, because she lacked special education. For instance, she read Plato and the Neo-Platonic writers, whom she mentions in her book called "Retrospection and Introspection." These writers, as is well known, discuss "mind" and "matter" at great length, but Mrs. Eddy's mind slipped when she tried to understand what she was reading. A freshman in college philosophy would be "flunked" if he did no better. The Greeks had speculated much about the existence of the world. Certain very early thinkers had suggested, like Mrs. Eddy, that the material world does not really exist. Thereupon, Gorgias of Leontinum, an ambassador to Athens in 427 B. C., pointed out that if the world we see and feel is but illusion, it follows that nothing at all exists,—not even goodness or spirit. This conclusion was so absurd that later Greeks, as well as all university trained modern philosophers, have studiously avoided the pit into which Gorgias fell. They have generally been careful to qualify their state-

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ments in a very subtle and technical way when they have contended that in some sense matter does not exist. Evidently this development in Greek philosophy was lost upon Mrs. Eddy, and we find her contending that the world does not exist with a naïveté and seriousness that reminds us of views long antiquated. There need be no doubt that Mrs. Eddy—perhaps unconsciously—took much from the Greeks, for any technical student of philosophy may see at once that she imitates something which is utterly distinctive of Greek thought: Throughout her text, she follows the Greeks in contending that matter and evil and plurality do not really exist, while spirit, intelligence, unity and goodness are the only reality. In short, Christian Science evidently imitates, but is founded on a misunderstanding of Greek philosophy. However, Mrs. Eddy addresses a public that knows no philosophy, and presents her doctrine so obscurely and with so many religious terms that few persons have taken the pains to penetrate its absurdities.

In 1875 Mrs. Eddy published the first edition of "Science and Health." The revised text still remains the gospel of authority for the "Scientist," from which there is no appeal. The quotations that follow are from the latest edition of this work, with one or two exceptions, and will be used to present her beliefs so far as possible in her own words.

The essence of what Mrs. Eddy teaches can be stated in a paragraph: "All that God made is good, and he made all. Hence evil is not made and is not real." (311.) "Suffering, sinning, dying beliefs are unreal." (76.) "Error, sin, sickness, disease, death—is the false testimony of false material sense." (108).

Many statements by Mrs. Eddy make clear not alone that she denies disease, but also that she considers everything else in our daily world an illusion. She believes that the human mind as well as the human body does not really exist. She points out that physicians "are ignorant that human mind and body are myths." (150). Flowers, landscapes, men and women are products of the so-called mind, are images which simulate mind, life and intelligence. (71). "Heat and cold are products of mortal mind." (374). Matter is not actual. (110). "Mortal existence is a dream of pain and pleasure in matter, a dream of sin, sickness, and death; and it is like the dream we have in sleep, in which

everyone recognizes his condition to be wholly a state of mind." (188). "If you or I should appear to die, we should not be dead. The seeming decease, caused by a majority of human beliefs that man must die, or produced by mental assassins, does not in the least disprove Christian Science." (164).

Mrs. Eddy does not believe in physiology: "Sound is a mental impression made on mortal belief. The ear does not really hear." (213). Likewise she denies disease, precisely as she denies the existence of everything else in the physical and mental world of our everyday life. "What is termed disease does not exist." (188). "You say a boil is painful; but that is impossible, for matter without mind is not painful. The boil simply manifests, through inflammation and swelling, a belief in pain, and this belief is called a boil. Now administer mentally to your patient a high attenuation of truth, and it will soon cure the boil." (153). "It is—erroneous to believe in the real existence of a tumor, a cancer, or decayed lungs." (395). "We have smallpox because others have it; but mortal mind, not matter, contains and carries the infection." (153). If a person swallows poison through mistake and dies, does human belief cause this death? Yes. For the vast majority of mankind, though they know nothing of this particular case and this particular person believe the arsenic or strychnine to be poisonous. Even though the physician and the patient are expecting favorable results, the actual result is controlled by the majority of opinions, not by the infinitesimal minority of opinions in the sick-chamber. (177). "A child may have worms, if you say so." (413).

Mrs. Eddy is vehement in her criticism of the practice of medicine: "Mortal belief is all that enables a drug to cure mortal ailments." (174). "When the sick recovers by the use of drugs, it is the law of a general belief,—which heals.—The chemist, the botanist, the druggist, the doctor and the nurse equip the medicine with their faith, and the beliefs which are in the majority rule." (155).

It is not generally realized how much Christian Science is opposed to the principles of hygiene: Mrs. Eddy preaches against baths, fresh air, diet and exercise in the treatment of ill health. "The less we know or think about hygiene, the less we are predisposed to sickness." (389). "When—less thought is given to sanitary

subjects, there will be better constitutions and less disease." (175). "We hear it said: 'I exercise daily in the open air. I take cold baths, in order to overcome a predisposition to take cold; and yet I have continual colds, catarrh and cough.' Such admissions ought to open people's eyes to the inefficacy of material hygiene, and induce sufferers to look in other directions for cause and cure." (220). "The daily ablutions of an infant are no more natural nor necessary than would be the process of taking a fish out of water every day and covering it with dirt in order to make it thrive more vigorously in its own element.—Water is not the natural habitat of humanity. I am not patient with a speck of dirt; but in caring for an infant one need not wash his little body all over each day—" (413). It is contradictory to suppose that food has the power to destroy life through a deficiency or an excess, a quality or a quantity. (388). "In seeking a cure for dyspepsia—eat what is set before you,—" (222).

Treatment by Christian Science consists in making the patient see the Truth. "If your patient believes in taking cold, mentally convince him that matter cannot take cold, and that thought governs this liability." (377). "To prevent disease or to cure it, the power of Truth, of divine Spirit, must break the dreams of the material senses. To heal by argument, find the type of the ailment, get its name, and array your mental plea against the physical. Argue at first mentally, not audibly, that the patient has no disease, and conform the argument so as to destroy the evidence of disease. Mentally insist that harmony is the fact, and that sickness is a temporal dream. Realize the presence of health and the fact of harmonious being, until the body corresponds with the normal conditions of health and harmony. (412).

"If the case is that of a young child or an infant, it needs to be met mainly through the parent's thought, silently or audibly, on the aforesaid basis of Christian Science." (412). "Science can heal the sick who are absent from their healers, as well as those present, since space is no obstacle to Mind." (179). "The author has cured what is termed organic disease as readily as she has cured purely functional disease." (149). The Christian Scientist, she adds, should not limit his practice to hysteria, hypochondria and hallucination. Truth handles acute disease or

the most malignant contagion with perfect assurance. (176). For the present, Christian Scientists may call in surgeons, at least for the adjustment of broken bones and of dislocations, although Mrs. Eddy states that she and her students have already cured even such cases. (401). It also would be permitted to have assistance under the following conditions: "If from an injury or from any cause, a Christian Scientist were seized with pain so violent that he could not treat himself mentally,—and the Scientists had failed to relieve him,—the sufferer would call a surgeon, who would give him a hypodermic injection, then, when the belief of pain was lulled, he could handle his own case mentally." (464.)

The results of treatment by Mrs. Eddy's method are illustrated in a chapter headed "Fruitage." Cures are claimed for such various conditions as rheumatism, astigmatism, hernia, insanity, epilepsy, fibroid tumor, cancer, cataract, valvular heart disease, Bright's disease and tuberculosis. Further instances of numerous cures up to date are reported in a current journal which is supplied gratis to "Scientists."

In financial matters, Mrs. Eddy evidently had a distinct advantage over ordinary practicing physicians: She reports that she was assisted in making out her bills by the Deity. "When God impelled me to set a price on my instruction in Christian Science Mind-healing, I could think of no financial equivalent for the impartation of knowledge of that divine power which heals; but I was led to name three hundred dollars as a price for each pupil in one course of lessons in my college,—a startling sum for tuition lasting barely three weeks. This amount greatly troubled me. I shrank from asking it, but was finally led, by a strange providence, to accept this fee." (From Mrs. Eddy's book, "Retrospection and Introspection.")

How can the spread of Christian Science be explained? Evidently it must contain something that makes a strong appeal to the masses. Other religions have generally attracted their following by promises of happiness in a future life; but Christian Science offers the credulous something more immediate,—freedom from ills right here and now. Indeed no religious doctrine has ever been more liberal with its promises, or suggested so easy a path for the attainment of everything the heart and intellect may



desire. For the believer is taught that if he will read and understand Mrs. Eddy's book he will acquire the sum total of valuable knowledge, will "know the past, the present, and the future," (84) and will secure perfect health. Furthermore, in her methods of attracting the public, Mrs. Eddy showed a business genius that rivals a Rockefeller. She established a board of directors with newspapers, free lectures, testimonial meetings and a widespread system of advertising among individuals from mouth to mouth. She saw to it that all net profits should be duly invested, not in charities, but in the further advancement and spread of her organization. She provided a livelihood for myriads of "healers" and an attractive mode of life for the believing public in the form of handsome temples with music and reading on a Sunday morning. All this is offered for small sums of money,—for charges less than are made by the average practicing physician.

How shall we explain that thousands of persons report benefit or cure through Christian Science? Doubtless some cases of improvement are genuine. As Dr. Emil G. Hirsch very well remarks, a certain admixture of truth or goodness may make a great falsehood all the more plausible and dangerous. Physicians realize today far more than in years past that a favorable state of mind may promote health to a certain extent. Such a state of mind is sometimes brought about in Christian Scientists by means of what is known among physicians and psychologists as "suggestion." By suggestion is meant the arousal of the belief of the patient that he is well or will become so. A second factor in the production of "cures" evidently is the quiet and contentment that may come to the individual when he ceases to believe that he is or can be ill. Lines of worry become relaxed, and the typical Christian Scientist bland faces results. It need not be doubted that systematic repetition that illness and misfortune do not exist has a sedative influence on those who listen sympathetically. A third way in which Christian Science influences is through the diversion which the ailing individual may derive from preoccupation with religious matters.

It is obvious, however, that the lay public, when crediting Christian Science with innumerable cures, fails to take into account sundry facts:

1. Christian Scientists often remain ill, but are

trained to deny it. Evidently it is quite absurd to accept the testimonies of Mrs. Eddy's followers that they have been made well, for they have been taught with parrot-like repetition to say that illness does not exist. Their minds are no longer open. 2. Many individuals with imaginary ailments may cease to imagine, and claim a "cure." 3. Many ailments run their natural course and then disappear, whereupon the result is wrongly accredited to Christian Science. 4. Christian Science may get credit for false cures just as any well advertised patent medicine gets credit from a large following. 5. Laymen cannot diagnose accurately nor tell when they are cured. 6. The testimonials of Christian Scientists generally are subjective reports. Laboratory tests are lacking. Such evidence has no scientific value. However, laymen seldom realize this, for they usually rely upon their friend for judgments and recommendations in medical matters. They do not appreciate that well trained physicians regard attempts to prove by testimonials as farcical. The public also needs to learn that hearsay diagnosis is worthless: to convince a scientific reader that a case of cancer, for instance, has been cured requires certain evidence that it really was cancer. It would not be convincing to record that some patient or doctor said it was cancer, but it would be necessary to have a microscopic examination made before and after the treatment by a competent pathologist. This of course is not done in Christian Science cancer "cures."

It is sometimes argued that the popularity of Christian Science proves that there must be some good in it. Perhaps this is true, but the same type of reasoning would prove that there is good in vice, crime, morphin addiction and many other recognized evils of society. Clearly, the medical value of Christian Science for the public is that it applies optimism and a form of therapeutic suggestion to the treatment of disease. Of course such treatment might be better performed by properly trained physicians. The average physician probably does not realize how much harm Christian Science is doing. It leads toward dangerous neglect of drugs, surgery and hygiene. An example was a recent autopsy at County Hospital, following a dinner with fungi mistaken for mushrooms. The dead individual was a Christian Scientist who had refused to undergo the catharsis that saved other members

of the family who partook of the same poison. The use of Christian Science in functional nervous disorders is particularly to be condemned, since it cultivates a state of delusion, in which the realities of the external world are denied. Preference of delusion to facing the pains and trials of life, as is well known, occurs likewise in the insane. If this point of view is correct, Christian Science carries with it the menace of intellectual degeneration.

It will not be necessary to point out the contradictions and absurdities in Mrs. Eddy's writings, since scientific readers will find them obvious.

From the progress of Christian Science among the laity, several morals may be drawn: 1. There is need of increased study of experimental psychology applied to medicine. 2. Medical men generally should take greater interest in community concerns. Every effort should be made to increase the average of medical competency, to avert inadequate medical preparation, and to weed out quackery and cults. 3. Accounts of advances in medicine and surgery should be conveyed to the public by lectures and articles. The public has the right to be educated.

#### THE PHYSICIAN AN IMPORTANT FACTOR IN PUBLIC HEALTH PROBLEMS IN ILLINOIS\*

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(A Posthumous Paper)

A State Health Department without the co-operation of the doctors will be about as useful as a manufacturing establishment with a complete office force, and all the machinery and equipment necessary to carry on a successful business, but with no other employees.

A department of health has a variety of avenues in which its energies and activities are expended, but all center around the one feature—prevention of disease.

The traditions of the medical profession link it with the same fundamental principle. All the experimental research carried on by the profession has been tending to the prevention or cure of disease, with the stress upon the former.

With these self-evident truths before us we are in a position to indicate why and how the physicians can aid the Health Department of Illinois.

As a collateral aid in the work of disease prevention "Birth registration" is required, and in this important service the doctor is the principal agent. It is from him we expect to receive all the information required to meet every individual need. This information is of value to the individual in many features.

It establishes identity, legitimacy, nationality, school age, first employment age, voting and marriageable age; the age at which one may inherit and hold real estate in his own name, and the age when one may enter the military or naval service, or be exempt therefrom. It enables one to obtain passports to travel in foreign countries, and to trace ancestry. In the last analysis the attendant at a birth owes it to the helpless child to secure for it all the above named advantages.

The prompt and earnest co-operation of the physician, then, will aid the department of health to assure to the citizen all the benefits to which that citizenship entitles him—or her.

As a further duty to the child we may well insist that no harm may come to it through its food, and to this end the physician may prove of inestimable value by insisting that the milk, the chief food of the young child, shall be pasteurized. In this way a very large element of the danger from a possible tuberculous cow in the herd supplying the milk may be eliminated. Where the unpasteurized milk is sold a "home pasteurization" may be very efficient.

But little need be said upon the importance of vaccination as a preventive of smallpox. The public is quite generally enlightened upon this question, though there are a few persons found in every community whose misinformation and prejudice lead them to oppose it. Doctors can help to overcome this unfounded prejudice and dangerous opposition.

Every physician can be of material aid to the department of health by promptly reporting any case of communicable disease coming under his observation. He can do much more than this; he can instruct the family as to the best way of caring for the sick in order to protect others from infection. He is on the ground ahead of the health officer. He can provide for the isola-

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tion of the patient and warn the family of the danger of additional exposures. He can do much to allay a spirit of antagonism toward quarantine.

Very few persons are aware of the fact that there are more than 1,000 deaths from diphtheria in Illinois each year. This, in spite of the well-known fact that early treatment with antitoxin will almost invariably cure.

The remedy for this condition is to be found in an active propaganda by the doctors for the immunization of all children under six years of age by use of toxin-antitoxin.

There is no longer any question of the efficiency of toxin-antitoxin, and if all children are immunized the danger from "carriers" is eliminated.

It may be news to some that doctors often neglect to receipt for the antitoxin which is furnished free by the State. This neglect causes much needless labor on the part of the State Department of Health, as each and every package must be accounted for in some manner.

There is one other suggestion to be made, one that might seem needless, but which nevertheless is important, that is to write the birth and death certificates with more care. It is not enough that it is so written that the physician knows at the time what it is, but also that he might read it at a future time, or so that one not familiar with his peculiar chirographic qualities might read it correctly.

The copying of over 7,000 birth certificates from "originals" calls forth the above suggestion. These are permanent records and should be prepared in the most careful manner.

#### DISCUSSION

Dr. Anna Hinds, Berwyn: I wish there were some way of making people understand the importance of registering the births of their own children.

Dr. Lillie seems to assume it is our duty, and it is as things have gone. The obligation is wrongly placed. I do not know that we can do anything with it, but it should be of more importance to the parents than it is to the physicians.

Dr. C. O. Schneider, Winnetka: The attitude taken by some physicians in the matter of reporting births and contagious disease, is the most serious crime that the health officer has to combat. Many doctors fail to realize their legal obligations to the state and municipality where they are practicing medicine, and they feel it to be an irksome and unwarranted duty that the physician should be the one that is obligated to report all births and contagious diseases. This is, and should

be the duty of the doctor, and it must be attended to more thoroughly, accurately and promptly than is being done at the present time.

The doctor's interest in the welfare of humanity should be so broad that the greatest good to the community at large is always paramount, instead of merely considering the welfare of the family group that pays the fee.

As an evidence of neglect in reporting communicable disease, it comes about quite frequently that the State Health Department receives death certificates with cause of death given as pneumonia or some other reportable disease, and no such case of illness had been reported to the local health officer. Such evidence of negligence on the part of the doctor should not be repeated without more serious consequences than a mere reprimand.

Dr. R. E. Logan, Galena: I am a new member in this section, having only been interested in public health in the last year.

I live in a section of the State in which public health questions are almost tabooed. I believe that the trouble with the average doctor in the community is this: The specter of state medicine has been affecting most of the doctors throughout the United States and they have a great deal of doubt; a great many not well informed on public health questions, believe that when the public health physician steps into the community from the State Board of Health, they are going to lose their jobs.

Dr. C. W. Lillie, East St. Louis (closing): The point raised by Dr. Hinds is a proper one indeed; that of educating the people themselves to realize the importance of birth registration. Who but the doctor can do that? Only the doctor and the midwife and those that come in contact with those people can do it. It is up to the doctor, and he has been the educator in everything pertaining to the public and general health. He has been for centuries, and he must continue to be.

It is not only that I am urging upon him the importance of doing this in the matter of birth registration but as an aid in the reporting of communicable diseases to the Department of Health.

If I were discussing from the mere point of view of the duty to the public in these matters, I could say a great deal more and could take up a great deal of time that might perhaps be better used by this section in some other way.

It is a burning subject with me, that of the ignorance of the public regarding their own duties and obligations to their neighbors and their friends and to the State and to the Nation, they are neglecting because they are ignorant of what it really means.

Before the recent war very few people took any especial interest in having births reported. They had not been called upon for a long time to secure a certified copy of a birth record. And when the war came on, and it was found that a great many wanted to keep out of the war and others wanted to get into the war, it was found necessary to have some record of births and they began to get busy.

Now, since the Federal Government is aiding some



of the ex-soldiers in proportion to the number of children they have, they must give a complete record of the births of all children, and they are getting very busy on that.

Very much more interest is shown now in birth registration than there ever was before. These are some of the points that the public are really more interested in than the physician is.

Physicians should be interested in everything pertaining to public health, and birth registration is only one of those features.

## PARAVERTEBRAL ANESTHESIA IN ABDOMINAL SURGERY.\*

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This paper is not concerned with the anesthesia produced by local infiltration as advocated by Reclus, Schleich, Crile, Harris and others, but seeks to gain your interest in the widened scope of injection anesthesia in abdominal surgery, attained by locking the spinal nerves supplying the field, at their points of emergence from the intervertebral foramina.

As has been clearly demonstrated by Braun, Finnisterer, Pauchet, LaBat and others, this method eliminates many of the objections of local anesthesia, and gives a wide field of safe and complete anesthesia, not only of the abdominal wall, but of those viscera supplied by the nerves injected. It is more difficult to apply than spinal anesthesia, but without its dangers.

The literature is well supplied with an array of facts and theories sufficiently convincing to convert the most doubtful. Technical points are difficult to find, however, and it is the purpose of this paper to state plainly, to show clearly by few slides the technique of applying paravertebral anesthesia by a method that we have found highly satisfactory.

### TECHNIQUE

*Nerve Supply:* The operator must have a practical knowledge of the distribution of the lower six dorsal and upper lumbar nerves. As shown by the diagram, the stomach is supplied by the 6, 7, 8, and 9 D. nerves. The liver and bile tracts by the 6, 7, 8, 9 and 10 D. nerves. The intestines by the 10, 11, 12 D. and 1, 2, L. nerves. The kidney and ureter by the 10, 11, 12 D. and 1, 2 L. nerves. The testicle and ovary by 10, 11, 12D. and 1, 2, 3, L. nerves.

The uterus by the 10, 11, 12D. and the lumbar and sacral plexes.

*Solution Used:* Novacain in sterile ampule form dissolved in distilled water to make a 1 per cent solution. Three drops of one to one thousand adrenalin solution is added to each ounce. The solution should be freshly made and never boiled. Seven to eight mls is used for blocking each nerve.

*Location of injections:* A pencil line is drawn parallel with the middle line and  $3\frac{1}{2}$  centimeters from it. A skin bleb is made with a very fine needle on this line and opposite to each spinous process. A lanced pointed 21 gauge needle three inches long is inserted through each bleb until it touches the transverse process or rib. It is then slightly withdrawn and the angle changed to graze the lower margin of the rib, and its progress terminated one-half a centimeter beyond. The syringe is applied, and moving the point slightly to and fro, seven or eight mls are injected. If the injection is too far from the middle line, the sympathetic ganglion will not be affected and anesthesia of the viscera will not be complete. If blood flows from the needle intravenous injection may be made with toxic symptoms and no anesthesia resulting. If the needle be too deeply inserted intrapleural injection may occur with no anesthesia resulting.

The lumbar nerves are injected in like manner, the needle grazing the lower edge of the transverse process. In this location the number of the nerve is one less than the spinous process opposite, as seen in the diagram. After the third lumbar the injection must be made very near the body of the vertebra, if the sympathetic branch is to be affected.

For strictly unilateral operations only the nerves of one side need be injected. The anesthesia stops at the mid line, however, and when incision is in the mid line, or mid line viscera like the stomach or pancreas are to be manipulated, bilateral injection of the nerves must be made.

Let us now apply the technique for removal of the gall bladder. As for inhalation anesthesia, morphin  $1/6$  grain with scopolamin  $1/100$  grain, is injected one-half hour before the nerve block. The right dorsal nerves from the 6th to the 12th are injected as described above. The injection should be made in the patient's room and are somewhat easier to do with the patient in the

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sitting position. Fifteen minutes after the injections are made, the patient is taken to the operating room with eyes covered with a cold cloth. The room must be well ventilated and silent technique observed throughout the operation. It is not advisable to converse to the patient but an assistant should be free to answer his questions, etc. In other ways the operation is performed as with general anesthesia. No infiltration of the skin is necessary if the injections have been perfectly made, but it is advisable to do until a moderate experience has been attained. Sharp dissection, gentle handling, minimum traction are desirable. If the patient complains of nausea or discomfort when the operator finds it necessary to go beyond the field of block, or when the block has been imperfectly made, any viscera can be rendered insensitive by the injection of a small amount of solution in its mesentery. If sensation is evidenced when the cystic duct and artery are clamped and ligated, as sometimes occur when the injections have been faulty, a small amount of solution should be injected in the space behind the cystic duct and between the gall bladder and liver. A willingness to add an intra abdominal regional injection will often convert a partial failure into a complete success.

The pylorus and duodenum can be operated on with the above technique, but if the pars media is to be manipulated, bilateral injections should be made.

Appendectomy requires injection of the 9, 10, 11, 12 D. and 1, 2, I. lumbar nerves. Here a partial success may be rendered complete by injecting the space behind the head of the cecum. There should be no nausea nor distress felt about the naval, if the injections are complete.

Nephrectomy or nephrotomy is an ideal operation for the application of paravertebral anesthesia. By injecting the 10, 11, 12 D. and 1, 2 L. nerves we recently removed a large tumor of the right kidney measuring 6 x 9 inches without discomfort of any kind to the patient.

Although herniotomy lends itself well to regional block of the ilio-inguinal and ilio-hypogastric nerves, the large variety are much more comfortably handled by paravertebral injection of the 11, 12 D. and 1, 2, 3, 4 L. nerves.

Due to the extensive nerve supply of the pelvic organs the number of injections are too numerous

for a practical application of paravertebral anesthesia. We prefer in this field a combination of local infiltration of the abdominal wall and sacral block.

#### DISCUSSION

Dr. John R. Harger, Chicago: I have listened with a great deal of interest to what Dr. Lowry said and also to the paper read in the early afternoon on the subject of local anesthesia for Caesarean section. For a number of years I have been interested in local anesthesia. Of course, regional anesthesia and paravertebral anesthesia are an outgrowth of the original so-called local or infiltration anesthesia. In the earlier days we were taught that the only indication for local or regional anesthesia was some contra indication to general anesthesia. At the present time I think it is quite well conceded that the indications for local anesthesia are those conditions or operative procedures which can well be carried out under local anesthesia. I would say from my experience and from what I hear from the other men a great deal of the major surgery that is done today can be safely carried out under local anesthesia.

Now, there are a number of things that are essential to a safe and sane method of local anesthesia. The first one is the confidence of your patient. The idea prevalent in the mind of the average individual that if he is going to be cut he is going to be hurt you have to obliterate to begin with. Another thing is the extreme irritability of the patient that is present when some operative procedure is to be carried out. If you have a highly intelligent patient, one well open to reason, that irritability can be overcome with mild persuasion. Local anesthesia, in most work, is practically without danger. Our present preparations, the novocain and apothetin, are practically harmless and when the injection is made into the area immediately around the operation or a block operation I think it is practically without danger. When it comes to regional anesthesia or paravertebral anesthesia or any other anesthesia where you seek out the nerve trunk for injection, I cannot convince myself that it is free from danger. We know this, that there is no tissue in the body that is quite as sensitive or as easily traumatized as nerve tissue. When we are using a needle in local anesthesia, and it reaches the region of the nerve we inject around it; if we strike the nerve trunk and infiltrate immediately into the nerve, I am not sure that there is not going to be some permanent effect upon this nerve. Many reports of such have been made. Braun has called attention to the fact that nervous irritability, collapse, and other conditions have occurred immediately following local anesthesia.

The description Dr. Lowry has given us is certainly a very good one. I can see it is not only easily carried out unless you acquaint yourself with the anatomy. However well you may be acquainted with the anatomy it carries with it a certain lack of precision. You cannot see exactly where the point of that needle

is, whether in the nerve or in the region of the nerve. That it has any advantage over a thorough primary narcosis with morphin and scopolamin followed by regional infiltration I am greatly in doubt. We know this; that gall bladder work, gastro-intestinal work and gastric-anastomosis have been done under primary injections of 1/6 morphin and 1/150 scopolamin one hour before the operation and then followed by infiltration of the abdominal wall with very good results. That this paravertebral work with its tedious technic has any advantage over that I am still in doubt. The principal points in the success of all regional work is confidence of your patient and primary narcosis, in other words, to overcome the nervous irritability that the patient is bound to suffer from. Unless that is done, you are not going to meet with success. It takes, however, in local anesthesia a great deal of patience and persistence on the part of the operator because a great majority of us have been taught in the past that when we are ready to cut, the patient is fully anesthetized. With this method we have to spend fifteen or twenty minutes in preparing our patient before we begin to operate.

Dr. Robert Emmett Farr, Minneapolis: I am glad indeed to have had an opportunity to hear this excellent paper and discussion. I regret that those of us who are interested in local anesthesia are compelled to take issue with each other upon details when speaking before various audiences, and incidentally have them get the idea that we are quarreling among ourselves. For instance, Dr. Lowry states that he is not discussing local anesthesia. It seems to me that paravertebral anesthesia is as much a part of local anesthesia as is sacral anesthesia. The sacral anesthesia Dr. Lowry describes I would call trans-sacral anesthesia rather than para-sacral anesthesia. I began my work under local anesthesia using the regional method. So far as I know Pauchet and his school are about the only ones who have stuck to the method. Professor LaBat who came to Rochester and spent a year showed this method. At the conclusion of a lecture which I gave upon local anesthesia before the Mayo Foundation Dr. Wm. J. Mayo stated that while conduction anesthesia was a beautiful method in the hands of an expert, he felt that the infiltration or simpler methods would work out better in the hands of the general surgeon, through whom local anesthesia must ultimately reach the patient. Those who have observed the work of experts in regional anesthesia will agree with me, I think, that anesthesia is frequently incomplete. The objection offered by Dr. Lowry that the dosage of novocain is necessarily larger when infiltration anesthesia is used loses much of its weight when we consider that Pauchet, Kappis and others recommend between two hundred and four hundred cubic centimeters when establishing paravertebral. Infiltration anesthesia rarely demands doses as large as this. Furthermore toxicity has been much more commonly observed where paravertebral anesthesia has been established, especially in the region of the neck.

First of all we desire safety, but we also want speed and we wish to eliminate the irksomeness which has been connected with the use of local anesthesia. We want methods which the young men will learn quickly and that general surgeons will use. I have no quarrel with the men who use nerve blocking, but I agree with Hertzler that spearing for nerves is a difficult thing and that the best of us will miss them now and then. Paravertebral anesthesia has disadvantages from the psychic standpoint. The most ideal method is to lay your patient upon the table, introduce your anesthesia and begin your operation at once. With the proper technic and equipment this method may be carried out.

I wish to make a plea for simplicity in the use of local anesthesia. Make it just as simple as you can and make it possible for the general surgeon to grasp the method without too much expenditure, and bring local anesthesia to the patient. This I believe is the crux of the whole problem.

Dr. Hugh N. MacKechnie, Chicago: A glance at the program gives an impression of the importance of this subject in the minds of surgeons today. Three out of fifteen papers assigned to local anesthesia is a very high average. The variety of topics indicates the varied applicability of the method. This varied applicability however, does not necessarily indicate easy applicability nor that one should use the method indiscriminately or without due consideration. If one were to get any such impression it would be merely to lead the method into a certain amount of disrepute and that would be most unfortunate. There are certain factors to my mind which must be considered in connection with local anesthesia, whether it is purely local or whether it is block anesthesia or whether it is paravertebral or intraspinal. First, one must have confidence in oneself and one's ability. This confidence must not be based on the simple willingness to do work but on real knowledge—a knowledge of the adaptability to the particular case and a knowledge of its applicability. This confidence in oneself naturally leads to a second point, the confidence of the patient which is very essential for a successful execution of an operation. Lack of confidence on the part of the patient develops a nervousness with movements and an unwillingness to cooperate at critical times, and this may lead not only to inability to complete the operation but to unfortunate results in the individual case. Third, a rather definite knowledge of the nervous anatomy of the part, both of the peripheral and sympathetic systems is essential. We should apply this knowledge for an exact location of these organs. Fourth, a well developed operating room technic in which nurses work quietly, talking is minimized and the handling of instruments is done without noise or confusion. Any infringement of these rules tends to produce uneasiness on the part of the patient and thereby upsets the easy completion of the operation. Fifth, nimbleness of the fingers and lightness of touch are extremely important. I have a rule which I repeat frequently in the operating room which



applies to any surgical procedure, but it is much more essential in the case of local anesthesia than it is in general. It is this, "handle your patient as if he were able to recognize local insults and able to defend himself against the same," that is, we should not take advantage of our patient even if we have him at our mercy and we should always remember that sub-conscious shocks are frequently more injurious than are conscious shocks. I believe that a more intimate knowledge on the part of the lay people with this safe and sane method would lead to a more frequent use of paravertebral anesthesia.

Dr. N. H. Lowry, Chicago: (closing the discussion) The points made by Dr. Harger and Dr. Farr are very well taken. The objections to paravertebral anesthesia can be easily overcome by study of the anatomy and a little work on the cadaver with color solutions and all those things that are necessary to build up the surgical technic of any new procedure. The advantages of paravertebral anesthesia are conceded: A small amount of solution is used to gain a wider field and more complete anesthesia. There is no local destruction of tissue. There is no interference with local circulation and there is no interference with healing. Of course, all the advantages of local anesthesia are conceded. We have enjoyed them and practiced them for a long time, but after you have reached the limit of local anesthesia you gradually get interested in regional and paravertebral. We expect to see all anesthetists of the local method becoming more enthusiastic over paravertebral as they progress with it.

#### A MACROSCOPIC URINE PRECIPITATION TEST FOR ACTIVE TUBERCULOSIS\*

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The early diagnosis of the tuberculous lesion still remains a difficult task. Research has brought us some nearer to the discovery of the period at which the disease first becomes established, but the initial stage of the primary infection is still to be determined. The lesion of the tubercle bacillus is not discovered until the disease is well established. Biologic tests have proved to be unsatisfactory. Recent works have had for their object the determination of the presence of active foci and, though of value, are not very dependable.

Some months ago, I had the good fortune to read a reprint of Wildbolz' original work on his autourine test. His findings warranted his conclusion that the tubercle bacillus antigen was

excreted in the urine. It occurred to me that since the author had shown fairly conclusively that the urine of tuberculous patients contained antibodies, it was logical to conclude that these same antibodies might be used to demonstrate a precipitation of tubercle bacilli outside of the body.

With this object in view, I have obtained some 250 specimens of urine in the hope that the data would be of service in diagnosing incipient tuberculous lesions.

I recall the words of William Osler, who said, "The early diagnosis of pulmonary tuberculosis is of such vital importance to the patient that *every possible means* should be used to recognize the disease before it has made much headway." The possibility of perfecting a precipitation test for tuberculosis has appealed to the writer as a possible means of diagnosing early tuberculous lesions and amply justifies the task attempted.

We are all familiar with the agglutination phenomenon as shown in the Widal test for typhoid. Since agglutinins are specific, we should also have antibodies appear in the urine when the body is combating phthisis. Like the eminent Swiss physician, "I know how daring it is to recommend any diagnostic methods for practice which depend upon biological development which in themselves are not clear." It occurs to the author that since the urine of actively tuberculous persons contains immune bodies of sufficient strength to produce a skin reaction, we may assume it contains agglutinins which are capable of coagulating or precipitating tubercle bacilli. Since this agglutination may be made more easy of interpretation by accomplishing it in the gross, I have followed such a course.

The object of this test is to differentiate active from arrested cases. The proof positive of pulmonic tuberculosis is by finding the bacilli in the sputum. In using the precipitation test corroboratory evidence is furnished in addition to laboratory findings, physical examination and clinical observation. In order for this test to be practical, it must be useful in tuberculosis of other systems than the pulmonic. The involvement of the nervous, osseous, gastro-intestinal, and the genito-urinary systems, as well as the pulmonic should show positive results despite a negative sputum. These antibodies being developed in the blood are necessarily produced to

\*Read before the Peoria City Medical Society, Sept. 1, 1922.

excess. The overflow is excreted in the urine. When all the body defence is broken down, the white cells no longer produce agglutinins and the urine is now free from them. While the body is combating the disease, they are excreted in the urine and may be demonstrated by the precipitation test.

Since it has been shown (Parke) that sodium chloride must be present before agglutination can occur, a series of tests were made to determine in what dilution this agglutination occurred most readily. The maximum reaction was shown when equal quantities of saline and urine were used. In further observations, this technique was followed.

In introducing a loopful of tubercle bacilli, there was considerable variation in the number of bacilli introduced, therefore, a homogeneous mixture of the bacilli in saline was used and one drop of a well shaken emulsion was added.

To prevent the contamination of specimens, the urine was obtained, in most cases, in the following manner: Males were requested to sponge the genitals with soap and water. The first part of the specimen was rejected since it may have been contaminated by bacteria and extraneous matter in the first part of the urethra. The last portion is caught in a sterile container, corked and labelled. If unable to void, the patient may be catheterized but the same precaution should be followed to obviate contamination. Females are requested to cleanse the parts before voiding. A specimen is caught in a sterile pan and transferred to a sterile container at once. Catheterization is the preferable method but many are averse to such a proceeding.

The technique of the test is as follows. Equal quantities of sterile normal saline and suspected urine were placed in a sterile test tube which previous to dry sterilization had been plugged with cotton. It was then incubated at 38 degrees centigrade for 8 hours to determine whether it had been contaminated. If such was the case, the urine became turbid. If, however, the specimen had not been contaminated, the tube remained clear. A drop of tubercle emulsion in normal saline was added. The tube was then shaken vigorously and again incubated for 8 hours or kept at room temperature for twenty-four hours. It was then placed in the refrigerator for one hour after which it was read.

If the specimen was clear with a precipitate

at the bottom of the tube, it was considered POSITIVE since the agglutinins in the urine were able to coagulate the bacilli introduced. If, however, the tube was turbid or opalescent, it was considered NEGATIVE. There were no antibodies capable of precipitating the tubercle bacilli.

Conflicting results were obtained by investigations of the auto-urine test. This was true in cases which had previously received tuberculin medication. Such treatment can only cause an exaggerated reaction in the precipitation test. The increased antibody production only causes a more marked agglutination of the bacilli.

Most of the specimens obtained have been received in the course of routine life insurance examinations. I am indebted to the profession for assistance in obtaining data upon their patients, also to the management of local sanitaria for their hearty cooperation.

The following is a general survey of the data obtained.

Number of Specimens Tested .....	958
Number of Positive Reactions .....	95
Number of Negative Reactions .....	158

#### POSITIVES

Manifest Tuberculous Findings .....	68
Suspected Tuberculous Findings .....	16
No Signs of Tuberculosis .....	11

#### NEGATIVES

Manifest Tuberculous Findings .....	6
Suspected Tuberculous Findings .....	0
No Signs of Tuberculosis .....	152

Negative specimens were obtained in the following diseases:

Syphilis—(Initial Stage) .....	1
Dementia Precox .....	4
Mental Defective .....	1
Cystitis .....	1
Glycosuria .....	2
Albuminuria .....	4
Intestinal Carcinoma .....	1
Mitral Regurgitation .....	3
Typhoid .....	1
Chronic Bronchitis .....	2
Acute Bronchitis .....	3

Positive Reactions in the following:

Pulmonary Tuberculosis .....	68
Persistent Diarrhea .....	2
Non-Specific Urethritis .....	1
Asthma .....	1
Influenza .....	1
Periculous Anemia .....	1
Abdominal Pain .....	2
Bronchitis .....	7
No Signs .....	11

The chief source of error is contamination. This may occur at the time the specimen is voided or even until the test is made. Even if the specimen is sterile it may be contaminated by a dirty container. For this reason, the specimens were all procured in sterile bottles and aseptic precautions used in making the test. Since the age of the urine may affect the reaction, especially if no preservative has been

added, two grains of boric acid were added to a two ounce bottle of urine.

I have kept specimens at varying temperatures from 38 degrees centigrade to ice-box temperature for periods from one to sixty days and have found that where a preservative, such as boric acid, is used, the urine retains its reactions for twenty-two days. Since this period of time is more than sufficient for sending it through the mails, it is sufficient to note that it gives the reaction for so long a time.

Over-incubation also vitiates one's results. Eight hours is ample incubation.

As has been mentioned, another source of error was the use of too large and an inconstant amount of antigen. In introducing a uniform amount, more uniform results were obtained.

The use of the various forms of preservatives has also affected this reaction. Formalin was not found practical since it inhibits the reaction. Chloroform was unsatisfactory because of its volatile properties, while camphor and thymol could not be depended on because of their low solubility and weak germicidal powers.

All other tests so far offered are difficult to perform and require an expert to read the reactions when they are obtained. Another objection is that special laboratory equipment is necessary. It is necessary in most instances to have the patient present but in this case one does not have any difficulty in obtaining a specimen since a few simple directions which most anyone can grasp are all that is needed.

The data I have presented indicate that wherever a precipitation of the tubercle bacilli occurs, there is a suspicion of an active phthisical focus present.

In 92 per cent of all cases which were unmistakably tuberculous, a positive precipitation test was obtained. The sixteen cases which gave a positive reaction to the precipitation test also showed signs which were indicative of a tubercular focus. I will mention a few of such cases.

Case 51.—Male, 18 years of age, single, clerk; complained of cough which was persistent for eight weeks; lost in weight; ran an afternoon temperature for two weeks; had profuse night sweats; blood pressure, systolic, 108, diastolic, 73. Examination of chest disclosed dullness and rales over upper left lobe anteriorly. No sputum was obtainable. Roentgenogram showed marked thickening of both hili, some enlarged glands surrounding upper horn of left lung. In this region was found increased peribronchial thicken-

ing, radiating into the upper left lobe. Radiographic diagnosis, "Suspected early tuberculosis. This case gave a persistent positive precipitation test for six weeks, after which time, it was negative and has been since then. The symptoms have become less marked; he has gained in weight; no temperature, no cough or night sweats.

Case 51.—Male, 18 years of age, single, clerk; complained of pain in left side of chest especially after exercise; duration, one year; no loss of weight; slight cough; distress immediately after eating; had pneumonia in 1920; blood pressure, S, 112, D, 70; dullness left side anteriorly; no rales elicited; x-ray showed changes characteristic of a chronic inflammatory exudative process. Diagnosis "probably tuberculous"; precipitation test positive.

There were but six cases with a history of clear-cut phthisis which gave negative reactions. These were residents of a local sanitarium. I am informed that three of such cases have been discharged as arrested. The others are very much improved. Contamination may have been the source of error in this instance.

With the data so far presented, one is warranted in offering the following hypothesis:

There exists in the urine of actively tuberculous persons antibodies which are capable of precipitating tubercle bacilli.

## THE PROTOZOAN DEBRIS AS THE PRIMARY CAUSE OF MALIGNANCY\*

HELEN B. FLYNN, M. D.

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In presenting a description of this organism as the cause of malignancy, my main object is to establish priority of discovery. Inasmuch as I am working on an antitoxin, I am frank to admit there are some points which I am withholding, until same is complete.

The name implies a description. It is composed of a male segment spiral in character, 3 to 6 microns in length, very thin with sharp extremities, which stains poorly; a female segment, small spherical 4/16 to 1.5 microns depending on stage of development, and a debris asexual element which occurs in masses of varying comma-like shapes. It is a strict anarobe, growing only on special media; requiring about an average of one week and a rather high temperature.

It gives rise to a soluble toxin, composed of heat stable and heat labile elements intensely toxic to animals. The spiral organism is present

\*Read before Section on Medicine, Illinois State Medical Society, Chicago, May 18, 1922.



mostly in tissues and growths inoculated freshly from tissues: the debris masses are present chiefly in blood: the female cells occur chiefly in media, although all three types are found in moribund cases. This organism is present in the tumor tissue, in the blood, in ascitic fluid and spinal fluid.

My attention was first attracted to these spirilla like organisms in the tissue juices—however I noted debris masses, but presumed it was some of the macerated tissue that escaped through filter. I inoculated a set of rabbits and guinea pigs, and much to my surprise they all died, showing the same pathology—a retroperitoneal mass—small round celled in character, no tendency to penetrate other tissues but a great many adhesions to surrounding organs, which required gentle dissection. In one old rabbit which lived 9 months, a tumor developed in the lung of the same character.

I macerated the tissues obtained from these tumors, reinoculated other animals, using rabbit tissue on guinea pigs and guinea pig tissue on rabbits; all developed a retroperitoneal tumor—the pathology was alike.

I then proceeded to try and grow the organism—the array of media would make a newlywed's experiments in cooking look sick—in fact I have forgotten most of the formulae. However on one type of media, I secured a growth which appeared crystalline in character—I have since come to the conclusion that this crystalline appearance is due to the formation of gas by some strains. Examination microscopically revealed a spiral like organism, but an extreme quantity of debris. I then proceeded to inoculate animals with this culture. Much to my surprise the animals died in a shorter time, each had a retroperitoneal mass, various degree of adhesions, but no metastases. I recovered this organism from the heart blood and the tissues and continued inoculating other animals and recovering organism.

I noticed a great number of spheroidal bodies varying in size which seemed to be always present in the culture media; close observations showed some had a very minute protuberance and there always seemed to be a zone of attraction for the spirochete in the vicinity of these spheroid bodies. Continued observation was rewarded by actually seeing the spirochetes approach the protuberance and finally enter and disappear within the cell. I have since noted changes in the char-

acter of these spheroidal cells after fertilization, and believe the debris masses are the asexual elements of this organisms.

I then proceeded to secure the blood as well as the tissue from patients suffering from carcinomas as well as sarcomas and was able to isolate the organisms from the blood as well as the tissue.

I believe this organism is the cause of malignancy for the following reasons:

They are found in 100% of all cases suffering from sarcoma as well as carcinoma.

They are 100% pathogenic to rabbits, guinea pigs and white mice.

They are more virulent to young rabbits than old ones.

The average range of life of animals inoculated with tissue juices is two to six months: when the animal is inoculated with a suspension of this organism in salt solution, the duration of life averages about 6 weeks, depending on the virulence of the strain. Animals fed with a smear of this organism on carrot live one to two weeks. Animals inoculated with toxine live 2 to 6 days, although the toxine removed from a malignant 68 pound tumor did not kill the animal for 2 months—this is exceptional, while the organism fed to the animal killed in three weeks. Virulence of the toxine depends on the strain, size of dose and age of animals—young rabbits are ideal. I have been able to protect some with an anti-toxine.

I used one batch of white mice and divided them into three parts, the first was vaccinated with the organism and covered with collodion, the second was inoculated with a suspension in salt solution under the skin, and the third was fed a smear on carrot and were kept in separate jars. Five days was the maximum length of life: post showed a toxemia, no growth, only inflammatory process where inoculated or vaccinated and the organism was present in the heart blood. I abandoned the idea of working with mice, believing them too susceptible to toxine to get results.

They are found in blood of patients suffering from malignancy in the earliest stages, as well as tissue before definite changes are present. The following cases are interesting. A child brought in suffering from some obscure mental derangement, put through various tests which were negative. The ophthalmologist reported a choked disk in one eye. She appeared to be suffering in-

tensely at times with pain in the frontal region, then periods of irritability and quietness. The child was discharged as subnormal, although her mother insisted she was quite normal until an attack of whooping cough some months previous.

I secured this organism from the spinal fluid. Two months later I learned that her mother went in to call her for breakfast and found her dead in bed. I didn't know it in time to secure a post.

Another case came into the hospital with vague abdominal symptoms, a ventral hernia, result of a previous laparotomy, and an enlarged prostate. The prostate on cut sections exuded pus on pressure, there was no microscopic evidence of malignancy: microscopically it showed dilated acini, some round and polymorphynuclear infiltration. I isolated this organism both from the tissue and blood of this man and proceeded to forget about the case. Two years later I met his wife and she informed me that he was dead for several months, had been ailing right along and nobody seemed to diagnose his trouble.

A young woman well nourished, who had been operated on some five months previously for a carcinoma in the cul-de-sac of Douglas and a quart jar of malignant tissue was removed, died from what appeared to be an acute dilatation of heart. The scar was so insignificant, the pathologist would have overlooked it had not the operator been present. The organs showed no metastases whatever, only the effects of an acute toxemia. I secured some of the blood from the heart chamber, and placed in ice box until serum settled. I pipetted off serum and added a carbolic solution (in salt solution) to the serum and let it stand for several hours in order to kill any organisms present. I neutralized the carbolic acid and injected three c. c. of this serum into three rabbits—all of them died in 7 days and showed only a toxemia—no growths. I recovered a virulent culture from this blood, taken from woman.

I have secured the organisms from carcinoma and sarcoma post-operative cases—several months after operation when patient was seemingly enjoying improved health—one of the sarcoma cases is alive after an amputation performed some four years ago.

75% of these patients had died at my last checking up.

This organism fulfills the 3 laws of Koch.

The habit of this organism explains Cohn-

heim's theory in a logical manner. The spirochete attaches itself to the cell or enters it, a polynuclear or wandering cell engulfs the whole epithelial or connective cell in order to kill the protozoan debris; it is a survival of the fittest: the wandering cell is overcome and the epithelial cell or connective tissue cell lodges in whatever organ happened to be the final battleground. Proliferation of a like tissue occurs under the powerful stimulus of the toxine generated.

It explains the parasitic theory because it is a parasite.

The generative cycles explain the presence of Plinnie's bodies, stippled cells, and bird-eyes of Von Leyden.

It explains the improvement temporarily when certain clinical treatment is given; surgery, cmetine, radium, and Colle's Serum.

I believe malignancy is spread mainly by mouth. Statistics show gastro-intestinal malignancies are more common than other types in countries like China and Japan where intestinal parasitic diseases are very common, and where they eat raw vegetables. In tropical countries and Mohammedan countries where the food is cooked and skin cancers predominate, it may be that the insects act as carriers inoculating the inhabitants by means of bites.

I believe that cancer of the gastro-intestinal tract is spread largely in this country by means of common eating utensils—restaurants, soda fountains, dirty dental instruments, bars, public drinking cups. The tobacco weed may be responsible for the infection of the tongue, lip and larynx in men, because we see very few in this location in women.

I never succeeded in isolating this organism from fibromas except where microscopic examination showed a tendency to malignant degeneration and the organisms were then present in the blood stream. I would not be surprised if future experiments would show these benign tumors to represent a healed lesion of malignancy in earlier life, just as fibro-careous masses represent healed tubercular lesions.

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#### DISCUSSION.

Dr. E. H. Ochsner, Chicago: I have never met the microorganisms which Dr. Flynn has described, but I have been convinced for a long time of two things; First, that malignancy is some kind of an infection. Second, that sarcoma and carcinoma are

either caused by the same or similar infections. I have not time to go into the details upon which I have based this conclusion. I am certainly delighted to hear this paper and hope to get in touch with the Doctor and see some of the organisms she describes, for it is along this line somewhere that the solution of malignancy has to come. I think the men who are working along the older lines are on the wrong track and that they are going to fail, and that some less well known investigator who approaches the matter from a new angle will find the solution. I hope Dr. Flynn has found it. When the thing is once solved pathologically, I do not believe the cure will be far distant.

## THE INDICATIONS FOR SURGICAL INTERFERENCE IN TOXIC GOITER\*

CARL LANGER, M. D.  
CHICAGO

The indications for surgical interference in toxic goiters can be summed up in one word: "Toxicity."

Any toxic goiter, unless there are definite, distinct contra-indications, is a proper subject for operative interference and relief. It is less a question of indication than contra-indications.

Of late years the chief contra-indication has become a high metabolic base line.  $+50$  is the generally accepted safe high line.

No goiter should come to the operating table without a determination of his or her metabolic line. This does not mean one or two tests but a series of tests.

Prolonged and absolute rest does wonders for these patients.

It is not at all unusual to see a patient enter the hospital with a metabolic line of  $+100$  or more, presenting a perfectly hopeless clinical picture, yet come to the operating table with  $+50$  after a few weeks or even months of such rest. I have kept them in bed three months.

A patient, whose hyperthyroidism was the most vicious I have ever seen—whose metabolic line was  $+117$ , was successfully cured through a thyroidectomy with such astonishing end results that she has since become a bride. She was operated on about nine months ago.

It will be interesting to see what a probable pregnancy will do for her.

During a recent visit at the Mayo Clinic, I had the opportunity to carefully go over their magnificent laboratory where their metabolic tests

are made. As you know, about 30 girls are employed there in doing the technical work. The director of the laboratory did me the courtesy to show me personally through the place. A test had just been taken. He showed me the report. It was  $+55$ .

"Well, what are you doing to do now?" I inquired.

"This report," he answered, "will be submitted to the surgeon who has the case in charge, and it will depend on his judgment, on his summing up of the whole clinical picture, as to what is going to be done."

That has been, and is, my attitude toward basal metabolism.

This brings us down to the practical and dependable contra-indications which were the guide of goiter surgeons before we knew anything about the metabolic rate.

The great contra-indication, which Kocher used to dwell upon with such emphasis is "Broken Compensation."

It is not so much a question of the rapidity of the pulse rate, it matters little if the rate is 120 or 150, but it is a question of the ability of the heart muscle to contract properly, of the degree of myocardial degeneration.

Diarrheas are of grave prognostic significance. This, of course, indicates the severity of the intoxication.

Never operate during the upward course of your hyperthyroidism. Never rush your patient to the operating table.

Don't send your patient in one day and expect to operate the next.

Your success as a goiter surgeon does not depend so much on your operative skill, or on some particular finesse you may have developed in this operation, or upon the choice of your anesthetic, whether local or general, or both combined, but upon the degree of experience, which tells you when to operate, when to quit while operating, or whether to operate at all.

As to the End Results:

On the whole there is no more satisfactory class of patients than goiter patients. To judge fairly of our end results we must divide toxic goiter into two groups.

1. The true primary toxic goiter, true Basedow's. This type is toxic from the very beginning. However small the goiter may be—there may be no perceptible increase in the thyroid at

\*Read before the Englewood Branch, Chicago Medical Society, April 4, 1922.



all—yet the toxic symptoms are markedly prominent from the start.

2. The second group are the toxic adenomata, secondary toxic goiters. The goiter has persisted for years, but lately, say a few weeks or months before you were consulted, have toxic symptoms appeared.

Really brilliant results follow operative interference in this type of toxic goiter. If carefully selected, the mortality is nil, and the symptomatic relief is nearly 100 per cent.

Not so much can be said of the first group. Even in the most careful and experienced hands, there is still a mortality, and the end results are by no means satisfactory.

Only about 20 per cent make a complete symptomatic recovery, the remaining 80 per cent are only more or less improved.

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## THE PRESENT STATUS OF THE GOITER PROBLEM

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Someone has said, regarding the goiter problem, "The surgeon has done too much, while the medical man has done too little. It was the failure on the part of the medical man to give relief to the sufferers from goiter that compelled the surgeon to work out a comparatively safe method of thyroidectomy. But with a clear understanding of the subject as we know it today, a very large percentage, if not all of the cases of simple goiter, if taken in time, can be prevented, and the majority of the existing cases cured."

In order to understand the goiter problem, certain known facts must be kept distinctly in mind. First, metabolism is the interchange in the body tissue of food elements for waste material, and the repair of tissue by these food elements, and the creating of body energy by the union of food elements and oxygen.

We know now that the secretion of the thyroid, if not wholly responsible, is in the main responsible for the internal oxidation of food elements, which results in the production of heat and energy. The other ductless glands may play some part in this work, but it is the thyroid secretion which controls the body basal metabolism.

It had been known for a number of years that the secretion of the thyroid was some form of iodine. Kendall of the Mayo foundation has isolated this thyroid secretion, and called it "thyroxin."

In the normal child, up to from seven to sixteen, in the girls, and from nine to sixteen, in the boys, the evidence seems to be that the thymus gland controls the body basal metabolism, but when the child enters the developed-mental period, the thymus gradually loses its metabolic control, and the thyroid assumes it, so that by the time the development period is well established, the thyroid has control of the body basal metabolism, but in order that the thyroid may properly control body basal metabolism, the gland must be capable of making and supplying to the circulation a normal amount of "thyroxin." In order that the gland may produce a normal amount of "thyroxin," it must be supplied with sufficient iodine from which to manufacture a normal amount of this secretion.

The old so-called "goiter regions" which were supposed to be due to the drinking water or snow water, as in Switzerland, are now known to be regions where iodine exists in small amounts. Near the seashore, goiter is almost unknown, but in certain regions it is prevalent. In these regions, even the iodine content of the salt is removed, in its preparation for domestic use.

The thyroid of the young boy or girl possesses glandular structure enough to manufacture several times the required amount of "thyroxin" necessary to maintain body basal metabolism at a normal rate, but if the gland is not supplied, by the circulation, with sufficient iodine, it becomes necessary that several times the normal number of gland cells be employed in the extracting of the iodine from the circulation, and in the manufacture of "thyroxin." In other words, the thyroid hypertrophies, in order to produce sufficient "thyroxin" to maintain normal basal metabolism, so that the simple goiters of childhood, and young manhood, and young womanhood, are, with exception of the rare exophthalmic goiter, compensatory goiters.

The treatment for these cases is simply knowing that the enlargement of the gland is due to overwork and a lack of iodine. We supply them iodine either externally or internally; externally, in the shape of ointments, and internally, as the sodium iodide in one-half to two grain doses,

t.i.d., for two weeks; then waiting six months and repeating it.

Such treatment will cure ninety to ninety-eight per cent. of the cases of simple goiter, if properly followed up.

It must be kept distinctly in mind that no case of pure simple goiter ever presents any symptoms of hyperthyroidism, but it must also be remembered, that the thyroid contains many primitive giant cells, which may, by the overactivity of the gland, be stimulated into growth, and one or many adenomas developed in the gland substance. These adenomas may be many and small, or they may attain great size, and all kinds of shapes, but so long as they do not irritate the thyroid cells, and cause the cells to produce an over-supply of "thyroxin," these adenomas do no harm but present cosmetic and pressure symptoms.

Plummer and Boothby of the Mayo clinic have found that simple goiter with adenoma never presents symptoms of hyperthyroidism until after they have existed for from fourteen to seventeen years. This fact is to be kept distinctly in mind, because simple goiter with adenoma should never be given iodine or thyroid extract, because of the possibility of precipitating hyperthyroidism.

*Treatment of Simple Goiter with Adenoma.* The writer believes that the only safe treatment for simple goiter with adenoma is surgery, shelling out the adenomas, which can be done, being careful to leave sufficient of the gland structure to supply the circulation with a normal amount of "thyroxin." Surely, iodine or thyroid extract are dangerous drugs to use in these cases, while radium and the x-ray, in our experience, not only do no good, but, we are sure, do harm. They tend to hasten the breaking down of the adenoma, thus increasing the irritability of the glandular cells. They tend to thicken and produce adhesions between the adenoma and the gland structure, and thus increase the dangers of surgery. The injections into the gland of a simple goiter with adenoma, with such drugs as iodine, or iodine and carbolic acid, or boiling water, is fraught with danger.

When once the diagnosis of simple goiter with adenoma is made, the treatment in the light of our present knowledge is first, if upon careful examination, it is evident that:

(A) Hyperthyroidism does not exist.

(B) Hyperthyroidism does exist.

If hyperthyroidism does *not* exist, the possibility of its development in from fourteen to seventeen years is not to be forgotten, but if no hyperthyroidism exists, special attention is to be given to the general condition of the patient, removing all findable sources of infection, seeing to it that the diet is well balanced.

In our judgment, women with adenomatous goiters ought never to assume the responsibility of pregnancy.

Attention is to be given to the elimination, and removing, as far as possible, all mental strain.

If hyperthyroidism *exists*, or even if there be a suspicion of its existence, as some excessive sweating of the hands and feet, or body in general, or extra heat of the body with a tendency of a rapid heart, yet not a true tachycardia, with some increase in the basal metabolism rate, say from plus fifteen to plus thirty, under these conditions, thyroidectomy is to be done, and it is the only logical treatment for these cases.

*Exophthalmic Goiter.* It is to be distinctly kept in mind that while the syndrome which we call hyperthyroidism is the clinical manifestation of exophthalmic goiter, it is not exophthalmic goiter, and while the syndrome of exophthalmic goiter may become more or less manifest with adenomatous goiter such a syndrome with adenomatous goiter does not make an adenomatous goiter an exophthalmic goiter.

In *adenomatous* goiter, it is the irritation of the adenoma upon the thyroid cells which causes them to produce an excess of "thyroxin" but this "thyroxin," while in excess under these conditions, is a *normal* secretion.

In *exophthalmic* goiter, there may or there may not be an excess of "thyroxin," but as Kendall has suggested, and it is the only logical conclusion to assume, in exophthalmic goiter, the arrangement of the molecules of "thyroxin" is different than in normal "thyroxin," just as we all know the composition of sugar and gun-cotton is the same, but there is a different arrangement of the molecules, producing two vastly different compounds.

As we all are aware, we often find cases of marked hyperthyroidism with but little or no enlargement of the thyroid. By accepting Kendall's explanation, the case is easily understood. With these facts in mind, exophthalmic goiter

may be defined as a condition of the thyroid which causes it to produce a "thyroxin" of a *toxic* nature. This may be in *excess* or *not*. Plummer has defined hyper-thyroidism as a state where the individual's basal metabolism is continually above normal.

As to the cause of the derangement of the thyroid in exophthalmic goiter, we do not as yet know. The writer has seen it follow pneumonia, sore-throat, infections of the sinuses, pregnancy, la grippe, and a number follow deep tonsillar abscesses, as well as fright.

It would seem that infection plays some part in its cause, but other cases give no history of infection, which does not, however, eliminate infection.

#### *Treatment of Exophthalmic Goiter.*

First. Conservation of body energy.

Second. Overcome the existing thyrotoxicosis.

Third. Limit, or obliterate in part, the blood-supply of the gland.

Fourth. Obliterate the ability of the gland to produce "thyroxin," partially or almost completely, by thyroidectomy.

Body energy can be best conserved by rest in bed, and bed rest will often reduce the body basal metabolism rate fifteen to thirty points. Special attention must be given to forced feeding of easily digested foods, with attention to digestion and elimination. If diarrhea be present, small doses of tincture of opium will give good results.

To overcome the thyrotoxicosis, we believe that the hydrobromate of quinine in from three to five grain doses, t.i.d., is the best remedy. Surely, it has given us good results.

If the patient is a woman, and at or near (either before or after) the menopause, one-fourth to one-half grain of corpus luteum added to the quinine has helped.

Sometimes, the heart symptoms are the most important ones, a mitral leak is present, the heart's action is rapid; often a multitude of extra systoles are found, with more or less signs of myocardial failure, as some edema, bronchial cough, dyspnea, or even orthopnea.

The ice-bag over the heart is one of our best remedies. Strophanthus, from two to four minims of the tincture, every four hours, has given good results. Digitalis is to be used guardedly, one grain of the powdered leaves, t. i. d. watching closely for symptom of digitalization.

Attention must be given, as soon as possible, to the tonsils, teeth, and sinuses. To limit the blood-supply to the thyroid, the ice-bag over the gland gives excellent results. If the skin is kept well covered with vaseline, the ice-bag can be worn almost continually for days. It is wonderful how it will quiet the heart, promote sleep, and assist in reducing the basal metabolic rate. Ligation of one or both poles of the artery is a procedure which not only gives wonderful relief, but it reduces the mortality rate, when the case comes to operation. Upon the heart hangs the patient's future. If the myocardium can regain its tone, and the blood-supply to the gland be reduced, surgery may or may not be imperative, but surely everything possible ought to be done to increase the body resistance, and to reduce the basal metabolic rate, before thyroidectomy is done.

Radium and the x-ray have been quite extensively used in the treatment of exophthalmic goiter for several years. Some wonderful results have been reported. If they do good, and they probably do, they do so by the destruction of glandular cells. The danger is of destroying too much of the glandular structure. Personally, we believe that ligation with partial thyroidectomy, if necessary, is much preferable to the use of these agents.

## X-RAY AND CLINICAL FINDINGS IN NORMAL CHEST

(of children—6 to 10 years)

NATIONAL TUBERCULOSIS ASSOCIATION MEDICAL  
RESEARCH

NEW YORK, N. Y.

The National Tuberculosis Association some-time ago began a new and important phase of its work in an attempt to increase the quantity and character of research work in problems related to its own field in the United States. For this purpose it appropriated \$20,000.00 and appointed a small committee composed of Dr. Wm. Charles White, Medical Director of the Tuberculosis League of Pittsburgh, Dr. Paul A. Lewis, Director of Laboratories of the Phipps Institute, Philadelphia, and Dr. Allen K. Krause, Director of Kenneth Dows Research Fund, Johns Hopkins Hospital, to expend these funds to the greatest advantage.

This committee decided that the best use of



these funds would be in assisting researches already under way that held the greatest promise of increasing the practical knowledge of physicians dealing with tuberculosis. This, they considered, would bring the greatest help to those suffering from tuberculosis and the greatest boon to the public from whom the funds were collected. This plan has been carried out in cooperation with the universities.

One of the researches was an effort to establish the x-ray and clinical findings in the chest of a normal child up to ten years of age. For this problem the National Tuberculosis Association nominated the following groups of roentgenologists and clinicians.

Dr. H. K. Pancoast and Dr. H. R. Landis,—University of Pennsylvania.

Dr. F. H. Beatjer and Dr. C. R. Austrian—University of Johns Hopkins.

Dr. H. K. Dunham and Dr. K. D. Blackfan—University of Cincinnati.

The signed reports of these physicians is here presented in two sections with the hope that they may promote a discussion which will be fruitful in establishing the truth in these two fields.

## THE X-RAY AND CLINICAL FINDINGS IN THE NORMAL CHEST OF THE CHILD

### REPORT OF THE CLINICAL DIVISION OF THE COMMITTEE ON MEDICAL RESEARCH OF THE NATIONAL TUBERCULOSIS ASSOCIATION

The value of Roentgenography in determining the presence of pulmonary disease has long been recognized. Studies to determine the roentgenograms of various pathological lesions of the lung have been almost without number, yet much difference of opinion exists in the interpretation of findings, largely because no satisfactory observations have been made establishing the variations that may occur in the normal. To one observer, shadows noted are indicative of disease; to another, they are not evidence of a pathological process; to one, they represent lesions of clinical significance; to another, they suggest changes of no moment. The realization of this unsatisfactory state of affairs was widespread but it remained for the Research Committee of the National Tuberculosis Association seriously to consider it and to set about to correct the shortcomings.

In the spring of 1920, that Committee called

together the collaborators in this work and instructed them to set about in ways of their own choosing to solve the problem, extended to them a financial grant and in order that the problem might be a very definite one, asked that the immediate study be limited to a consideration of the chests of normal children between the ages of 6 and 10 years. The work was begun promptly and a preliminary report was made at the annual meeting of the Association in May, 1921. The findings at that time were incomplete and because of the then limited observations, no very definite conclusions were drawn. However, the practical need of a solution of the problem was apparent. Study was continued throughout 1921 and the first four months of 1922, and the data independently assembled were jointly discussed to evaluate them. Although each pair of workers carried on its investigations without intergroup consultation, although each approached the subject from a different angle and when first met held views apparently not altogether in accord, it was agreeable to find than an exchange of conclusions disclosed almost an unanimity of opinion. The findings of these six observers—three clinicians and three roentgenologists—are presented to you for your consideration.

Theoretically, the normal child is one of ideal height, weight and development for his age, without subjective or objective evidences of deformity or of disease and without residual changes due to antecedent pathological processes. Practically, a normal child is one of average height, weight and development for his age, symptom-free and without signs of disease. Each such individual, in more or less relation to his age, will have been ill more or less often and as a consequence may be expected to show variations from the ideal, not because of present disease, but as a result of residual changes that persist. An appreciation of these facts makes it apparent that the findings, clinical and roentgenographic, in normal children as we meet them will vary greatly from any fixed standards and still must be considered as variants of normal.

The clinical data dealt with in this report were obtained by careful examination of apparently healthy children between the ages of 6 and 10 years. All children who showed signs of disease were excluded from the series. Individuals from various strata of society, foreign and native born, residents of urban and of rural communities,

school children and children residing in institutions, children exposed to tuberculosis and some without a history of such exposure, children with and without a history of previous infectious diseases, all symptom-free, and of an approximately normal height and weight for their ages, were studied. A history of each individual was recorded and in making the examinations of the chest, care was always observed to have the child relaxed and to see that no cramped or unnatural posture was assumed, for, as is well known, faulty positions may lead to findings that cause confusion in interpretation. In addition, a tuberculin test was made on every child. The clinical data were then assembled and after the roentgenologist had interpreted his plate independently, the clinical and roentgenographic findings were correlated.

In all, over 500 children were thus studied and as a result some definite conclusions seem warranted.

As in the adult, so in the child vocal fremitus is more marked over the right upper chest than over the left.

It is generally stated that the percussion note elicited over the lungs of normal children within the age limits under consideration, is fuller, more tympanitic, of higher pitch and more resilient than that noted over those of adults, and that frequently the tympanitic quality is quite outspoken, especially over the lower lobe of the left lung. Although in general our observations confirmed this view, we have been impressed by the fact that in an appreciable number of such children, the note obtained on percussion over the lungs is indistinguishable in quality from that elicited over the lungs of normal adults and that the usual resilience of the note is lacking. These findings in many instances have an analogue in shadows noted in the x-ray films, shadows indicative of increased density along the bronchial tree, similar to those seen in the plates of normal adults. This correlation of the findings on physical examination and on x-ray study is more constantly possible in studies of the upper half of the chest. When minor changes, similar to those discovered by x-ray examination of the upper lobes, occur in the bases, they usually escape detection on physical examination. In those instances, in which no shadow is found to explain the deviation of the note from the generally accepted one, it is our belief that the lack

of resilient quality may be due to a decreased elasticity of the chest wall.

The so-called tympanitic quality of the percussion note over the left base may be increased, decreased or be entirely lacking, depending upon the degree of distention of the stomach or colon, the curvature of the spine, and may likewise vary with the position of the diaphragm or with the posture of the child during the examination. The note over the upper thorax is often the same on the two sides. Kronig's Isthmus averages 5 to 6.5 cm. in width. The lower margins of the lungs posteriorly are at the level of the 10th or 11th rib and descend from 1.5 to 3.5 cm. during forced inspiration.

A just detectible diminution of resonance over the apical regions is of no significance unless associated with a modification of the breath sounds in those areas or with other abnormal auscultatory findings.

It is generally accepted that normally in childhood, the breath sounds have a harsh, sharp character, with expiration longer and better heard than in the normal adult. This so-called puerile breathing is physiological and though it may seem trite, let it be emphasized that this exaggerated vesiculo-bronchial respiratory murmur, especially well heard in the areas overlying the great bronchi (i.e. anteriorly at the level of the first interspace and the second rib just lateral from the sternal margins, and posteriorly, particularly on the right side, at the level of the 2nd to the 4th spine) is often incorrectly interpreted as evidence of pulmonary disease. An auscultatory finding that has not been pointed out, or at least, has not been emphasized, has come forcibly to our attention in carrying out this study. Just as the full, deep note or higher pitch characteristically elicited by percussion of the child's chest is often replaced in health by a note more like that produced when one percusses the normal chest of an adult, so, on auscultation of a child's normal lungs, the exaggerated or puerile breath sounds may be lacking, and instead the so-called vesicular respiratory murmur characteristically present in adult life is heard. This finding, regarded by us as a physiological variation, has been noted as early as the age of four years and may perhaps occur in younger children. It is more readily appreciated and more often found than the variation in the percussion note just described. In more than 50% of the children in

which this type of breathing was heard, examination with the x-ray gave findings like those obtained by a study of normal adult chests. In fact, the agreement of clinician and roentgenologist was so constant that we have come on the basis of these variations to designate the chest of normal children as of "puerile" or of "adult" type. The essential fact to be stressed is that so-called vesicular respiration is heard with great frequency in normal children, and is to be regarded as a variation of normal and not necessarily as an indication of disease.

These variations and those of the percussion note are more generally found in children with a history of infections of the respiratory tract. No satisfactory explanation for this finding is offered. It may be due in part to altered resilience of the chest wall, a suggestion supported by the fact that in some instances in which it was noted, diminished elasticity of the thoracic wall was apparent on percussion. It may stand in relation to variations of elasticity of the parenchyma of the lung. It may be due to a relative narrowing of the lumen of the bronchial tree. It is hardly to be considered evidence of increased density of respiratory tissue, for, theoretically, at least, that should lead to a modification towards bronchial breathing.

Concerning the whispered voice sounds, little comment needs to be made other than to emphasize their loud transmission often with syllabation over the region of the major bronchi. Auscultation of these sounds over the upper thoracic spine of the children has led to the conclusion that D'Espine's sign as indicative of enlarged tracheo-bronchial lymph nodes is, to say the least, of doubtful value. In 23 of the children, this sign was elicited without other signs of a mediastinal mass and without any corroborative evidence on x-ray examination. In 3, the sign could not be elicited, although from the x-ray plate it might have been inferred that it should be. Eustace-Smith's sign is so generally present in normal children that it is of little or no practical diagnostic worth. The presence of these two signs together with impairment of resonance in the interscapular region is all too frequently made the premises for a diagnosis of tuberculosis of tracheo-bronchial lymph nodes. This is unwarranted for, as indicated, these signs are unreliable evidence of a pathological condi-

tion and the determination of a diminution of resonance in the interscapular region requires such a nicety of technic that even masters of percussion disagree as to the presence or absence of significant findings in this region of the chest.

A year ago, in the preliminary communication to this Society, we stressed the importance of the role that antecedent infections might play in the production of areas of increased density within the respiratory tract. (Bronchial tree, parenchyma of the lungs, etc.) This fact is reemphasized, for further study has established the importance of it. Not only may recognized or remembered infections of the bronchi and lungs be responsible for alteration in these tissues, but other diseases not ordinarily considered of significance in this regard may be causal of such changes. For example, our observations indicate that after measles, pertussis or tonsillar infections, areas of increased density radiating from the hilum into the bases especially, occur with great frequency. Such lesions generally are not discoverable on physical examination and would be unsuspected but for the use of the x-ray. They are referred to in the clinical part of our joint report in order to point out the need of a careful history as well as examination in all individuals, before proceeding finally to interpret the findings of the Roentgenologist. By way of digression, it may be interesting to point out the fact that though measles and pertussis have been known to produce lesions in the upper air passages, involvement of the lower tract has been considered a complication and was thought to occur only when evidence of bronchitis or of broncho-pneumonia was discovered. Our observations indicate that there may be a mild inflammatory process throughout the respiratory passages in a large percentage of the so-called uncomplicated cases of these diseases. This suggestion warrants further study in relation not only to the infections under consideration but also other infectious diseases. That such shadows, mediastinal and basal, noted in children who give a history of uncomplicated measles and pertussis are evidence of healed processes is evidenced by the experience that similar shadows of like origin have remained unchanged and without the development of clinical symptoms in a series of children observed from 3 to 5 years. Such changes must be properly evaluated as indices, not of present



disease, but of lesions past and healed, not as warrant for the diagnosis of present illness and the institution of treatment, but as scars of infections met and overcome.

Most of the children included in this study were tested with tuberculin—some were given a cutaneous test with old tuberculin (Pirquet—others were tested by the intracutaneous method. (Craig.)

The foregoing facts have been detailed at some length to establish the major thesis that, clinically, the ideal, normal child is a hypothetical impossibility. Children, apparently healthy, symptom-free and active, show on careful examination many deviations from fixed standards, variations that must be interpreted as within physiological limits; standards of height and weight must be elastic; measures of resonance and of resilience of the chest must not be rigid and estimates of acoustic phenomena must permit of a range of difference from the ideal. These facts, clinical experience establishes beyond peradventure, and they suggest a corollary, namely, that x-ray examination of the chest of such children may be expected to show comparable deviations from a fixed ideal roentgenogram.

The studies reported, fortified by past experience, warrant the following conclusions:

1. The data obtained on percussion and auscultation of the lungs of normal children show wide variations from a fixed standard. These variations are usual and are considered to be within normal limits.

2. Inasmuch as the changes referred to are dependent often upon alterations that persist as the residua of past infections of the respiratory tract, it is obvious that a careful anamnesis, with special reference to all infections, is necessary if diagnostic errors are to be avoided. Even a history carefully taken is often unreliable, as minimal infections are soon forgotten by many and among the unintelligent classes even more significant indispositions are not readily recalled.

3. Failure properly to evaluate these deviations from a fixed standard will often lead to the unwarranted diagnosis of disease and to even less justifiable treatment.

4. With a proper appreciation of the widest variations that the normal may present from the ideal, the informed clinician is better able correctly to understand the findings of the Roent-

genologist, and each, cooperating with the other, is less liable to error.

5. D'Espine's sign as indicative of enlarged tracheo-bronchial lymph nodes is of little value.

6. Recognition of and familiarity with the foregoing data is of cardinal and practical importance to every patient, potential and established. Without a proper appreciation of the facts set forth, no intelligent differentiation between a normal and an abnormal respiratory tract can be made.

In brief, to establish the presence of absence of disease, it is imperative that all data—clinical, laboratory and roentgenographic—must be evaluated and correlated and that no one fraction of the evidence be stressed to the exclusion of the others.

(Signed) C. R. AUSTRIAN,  
H. R. M. LANDIS,  
KENNETH D. BLACKFAN.

May 6, 1922.

## THE X-RAY AND CLINICAL FINDINGS IN THE NORMAL CHEST OF THE CHILD

REPORT OF THE X-RAY DIVISION OF THE COMMITTEE ON MEDICAL RESEARCH OF THE  
NATIONAL TUBERCULOSIS ASSOCIATION

It is generally conceded that one of the most important factors in accurate interpretation of the appearance of morbid processes in the roentgenogram of the thorax is a thorough familiarity with the normal and variations therefrom within normal limits. With a full realization of this in view the National Tuberculosis Association in 1920 appointed a committee comprising three roentgenologists and three internists to make a study of the normal chest of the child between the ages of six and ten years. This group was instructed to work in cooperation and to make a report of their investigations before the Association when their studies were completed and their conclusions reached. The members selected for the committee were Dr. H. Kennon Dunham of Cincinnati, Dr. Frederick H. Baetjer of Baltimore and Dr. Henry K. Pancoast of Philadelphia to act in the capacity of roentgenologists and to work in cooperation with the respective internists in the same cities, Dr. Kenneth Blackfan, Dr. Charles R. Austrian and Dr. H. R. M. Landis. Each group of two was to work inde-

pendently until a satisfactory number of individuals were examined and the entire committee was then to meet and draw their conclusions for presentation. It was to be the duty of the internist in each group by careful clinical study to select as nearly normal children as possible for examination by the roentgenologist. The entire procedure was to be carried out with strict cooperation between the two members of each group.

It was soon realized by the x-ray members of the groups that an attempt to describe a normal chest was practically impossible. Their endeavors soon began to centre around the description of a theoretical normal with wide variations that would serve as a basis for the interpretation of abnormal appearances and tend to preclude the possibility of erroneous diagnoses being based upon faulty interpretations of hilum shadows, trunk shadows and linear markings more or less altered in appearance by the frequent respiratory infections of children. They realized that herein had existed the greatest source of error in interpretation, and no doubt the Association had this same thought in mind when the committee was appointed to take up these investigations. Errors in interpretation have been made chiefly in connection with the diagnosis of pulmonary tuberculosis.

It was the consensus of opinion that children are probably more apt to show definite x-ray evidences in the hilum and trunk shadows of simple as well as serious respiratory infections than adults. Practically all children of the ages of those examined have had at one time or another one or more respiratory infections, especially measles and whooping cough, that are likely to produce very apparent changes in the shadows mentioned and which will remain distinctly visible for a variable period of time. These apparent deviations from the normal are not necessarily abnormal when observed, but may be the harmless results of one or more infections. No doubt such appearances have many times been misinterpreted as evidences of tuberculosis. In the conclusions reached by the committee the attempt has been made to preclude this possibility.

Many of the general observations made have not been included in the conclusions. One of those perhaps worth mentioning is the fact that

the heart of the child is found to extend relatively further to the right than in the adults.

The thoroughness with which the studies were carried out may be in part realized from the number of individuals examined. Over five hundred children were selected from all strata of life, as stated in the clinical report of the committee.

The groups comprising the committee met at the Phipps Institute, Philadelphia, March 3, 1922. Prior to this meeting there were misgivings as to the possibility of an agreement upon any very definite conclusions, but much to the satisfaction of all the members a definite agreement was reached and the conclusions were completed after a few hours careful deliberation.

To assist in a better understanding of the conclusions of the committee, a composite diagrammatic reproduction of several roentgenograms was made and is shown in the accompanying illustration. It must be remembered that the three zones like the chest have thickness as well as length and breadth. Thus the zones extend anteriorly and posteriorly from the lung root as well as laterally.

#### CONCLUSIONS OF THE X-RAY DIVISION OF THE COMMITTEE

*The Normal Chest.* The normal chest of the child from the roentgenologic standpoint is subject to such wide variations within normal limits as to be beyond the possibility of exact description.

*Hilum Shadow.* The conglomerate shadow commonly called the hilum shadow, when found lying entirely within the inner third or zone of the lung area can be disregarded (or regarded as normal) except where it is made up of a solid mass of homogeneous shadow, giving undoubted evidence that it represents a growth or mediastinal pleurisy.

*Calcified Nodes.* Calcified nodes at the root of the lung, without evidence of lung disease, are of no significance except as a possible evidence of some healed inflammatory condition, possibly but not necessarily tuberculous. They are a common finding in normal chests.

*Density and Thickness of Trunk Shadows.* In the normal lung the bronchial trunk shadows are not visible in the extreme apical regions. For convenience of description the remainder of the lung is divided into three vertical zones, extend-

ing outward from the lateral border of the spinal shadow to the lateral chest border.

The inner zone contains the root shadows.

The mid zone contains the trunk shadows, gradually fading out into their final subdivisions.

The peripheral zone contains radiating lines from these and fading off before the periphery is reached.

Where in the mid zone or peripheral zone, these shadows do not disappear in the characteristic fashion described, the appearance may be evidence of a variety of conditions, past or present, of an inflammatory nature or otherwise. It may accompany a tuberculous process but is not necessarily indicative of tuberculosis.

*Improper or Misleading Terms.* The use of the terms "peribronchial tuberculosis" and "parenchyma tuberculosis" is not to be recommended in the interpretation of roentgenograms of the chest. Until corroborated by laboratory or clinical findings, the use of the terms "active" and "quiescent" should not be definitely applied to evident lesions demonstrated on plates.

(Signed) HENRY K. PANCOAST,  
KENNON DUNHAM,  
F. H. BAETJER.

May 6, 1922.

## LIFE AND HEALTH

CASPER L. REDFIELD

CHICAGO

The encyclopedia says that Life is "the popular name for the activity peculiar to protoplasm." According to this definition, life is a mere operation. Herbert Spencer says that life is "the continuous adjustment of internal relations to external relations." That also represents life as being nothing more than an operation.

But dry seeds are inert objects which have life, as is evident by the fact that they can grow when placed in the proper conditions. And many animalculæ remain dessicated and inactive for long periods, yet revive when moistened with water. These facts show that life is something more than an operation of a physical body.

The article from which our first quotation is taken also says that we know life only as a "quality of living matter." That is defining life in terms of itself and does not help us in the

slightest. It is like saying that heat is a quality of hot things.

Further along the same article refers to the "architecture" of the protoplasm of the cell, and says that life is "a function first of the peculiar architecture of the mixture, and then of the high complexity of the compounds contained in the mixture." But as life may disappear without causing any observable change in the architecture of the cells or the complexity of the chemical compounds, the definition is mere guess work.

All of these definitions, and all of the explanations in the article quoted from, smack of the superstitions of past ages. They designate life as being some quality, function or operation of a substance which may be seen but which is as mysterious as the ghosts which frightened our ancestors. They all represent life as being unrelated to anything in the universe other than this complex substance known as protoplasm.

Here we will take a different attitude and define life as being one of the many forms of energy we know in mechanics.

Some of these known forms are motion of physical bodies, heat, light, electricity, magnetism and chemical affinity. We know that these are different forms of the same thing because we can transform them into each other. While we do not know what electricity is, we know that we can transform it into motion of a physical body, and we know what such motion is. In this transformation the electricity disappears and the motion appears. Going the other way, we can transform motion back into electricity, and in this transformation the motion disappears as the electricity appears. Such transformations back and forth show that motion and electricity are different forms of the same thing, just as water and steam are different forms of the same substance.

Some of these transformations we can make fully and completely, and some we can make only in part. Some we can make directly, and some we can make only indirectly through some particular medium. But the fact that we can make a particular transformation only through a particular medium does not make the energy a function of the medium. If we can show that life is a transformation from some one or other of these known forms of energy, and that we can transform it back into some one or other of them, then we have removed it from the realm of the



mysterious to that of the known, and can study it scientifically.

Energy is commonly defined as "stored work," and all kinds of energy are measured ultimately in terms of work. Work is measured in foot-pounds, ergs or other units. Consequently, if, by any process, we can cause life to disappear and can cause foot-pounds of work to appear in place thereof, we have made the required transformation and demonstrated that life is a form of common mechanical energy.

When a person winds up a spring he stores energy in it, and that energy is common mechanical energy which may be measured in foot-pounds. But the energy thus stored in the spring came out of the muscles of the man who did the winding, and it had to be in those muscles before it could come out. By this example we see that common mechanical energy exists in the living organism as is shown by the fact that it may be withdrawn therefrom. Or we may represent the matter in another way by saying that a foot-pound of work is the same thing whether it comes from man, horse, dog or steam engine. In fact, the steam engine, the water wheel and the wind-mill were made to do the identical work which had before been done by man and his domestic animals. The fact that we have established certain laws of energy by studying the operations of mechanical appliances should not blind us to the fact that those laws apply to energy wherever it may be found.

Energy is withdrawn from the system by physical efforts, and the quantity so withdrawn may be measured in foot-pounds. If the efforts which withdraw energy from the system are continued for a considerable period, a person becomes tired, a fact which shows that the existence of a considerable quantity of energy in the system is necessary to comfort and well being. If physical efforts are great and long continued, a person may die for no other cause than the withdrawal of foot-pounds of energy. This means that the life within the individual has been transformed into a known form of energy and expended, and this in turn means that life itself is a form of energy.

A person exposed for a long time to cold may die from no other cause than such exposure. Exposure to cold is a process of withdrawing heat units from the body, and heat units are a known form of energy. In this case, life disappears by

being transformed directly into heat and conveyed to the surrounding medium.

A person can live and move only because of the heat units obtained in food. Stop the supply of food from which heat units can be derived, and life ceases to exist. This means that life is really a transformation from heat, and that the living organisms has the power to make such transformation.

Being able to identify life as being a form of the energy we know in science is of more than academic interest. It lets us know that we can apply to life problems the scientific knowledge we have obtained in the physical sciences. We will consider a few of these.

A person is useful in this world according as he is powerful, mentally and physically, and it can be shown that mental power is just as much a form of energy as is physical power. For example, mental power is used in performing mathematical operations. But a calculating machine driven by a steam engine can perform mathematical operations, and such operations are measureable in units of work. What we want to know is how to make people more powerful than they are now, or were before.

Energy can be employed to perform work only when it is at a high potential and is permitted to run down to a lower one. We can visualize this by comparing energy to water. We can use water for power purposes only when it is at an elevation and is permitted to fall to a lower one. Water seeks its level and will not run up hill of itself. It can be raised to a higher level only by the performance of work. Energy also seeks to equalize itself, and can be raised to a higher potential only by the performance of work.

What is just said about energy are things which have been demonstrated positively in the physical sciences. But we can see the same thing in the human being. A man can perform work only because the energy within him is at a higher potential than it is in the surrounding atmosphere. Naturally, the energy within a person runs down (dissipates), as is seen by the fact that a sedentary man gradually loses the power he had in his more active days. And a man can increase his physical powers only by taking physical exercise, which means the performance of work. It is impossible to make an athlete out of a man by simply feeding him and giving him fresh air to breathe.

Perhaps it will be said that we are not interested in making athletes out of average persons, and that athletes are commonly short lived people. The observation is true enough, but it does not meet the argument here presented. Saying that it is impossible to make an athlete out of a man by simply feeding him is putting emphasis on the fact that there is only one way to increase in the system that form of energy which is so plainly observable in the athlete. In June, 1918, the American Medical Association officially recognized "the wonderful mental and physical benefits" which came through intensive military training in the army cantonments.

The short life of athletes is not due to the large quantity of energy in them, but to two other causes. One of these is that the professional athlete commonly has his energy developed in the form of muscular powers at the expense of other powers, with the result that when he is attacked by some disease the energy he has is not so immediately available as it should be. The other is that professional athletes frequently deplete their energy supply to a low point by long continued efforts, and by so doing they approach the point of killing themselves by over exertions. We will consider these things further.

If a man systematically exercises the muscles of his arms and not the muscles of his legs, he will develop power in his arms without developing power in his legs. Similarly, he may, by systematic running exercise, develop the power of his legs without developing the power of his arms. But a person with powerful legs may make himself temporarily unfit for a foot race by continually exercising his arms until he is tired all over. Energy stored in one part of the system is available to help out another part which is under strain, but it is not fully available. A man with powerful legs and weak arms can expend more foot-pounds through his legs than he can through his arms. But if his arms have a given amount of energy normally within them, and he does not operate too rapidly, he can expend more through them in a given time if his legs are powerful than he could if they were weak.

When a person has become exhausted by long continued physical efforts he is much more liable to attack by some bacterial disease than when not so exhausted. Also, when a person has become chilled by long exposure to cold, he is more

liable to such attack than when not chilled. These facts show that the removal of energy from the system, either in the form of foot-pounds or in the form of heat units, is the removal of the thing which fights disease. And when a person has been ill for some time, his strong arms and strong legs have become weak, and this is a fact which shows that the energy normally stored in those organs has been transformed into another form and has been expended in fighting the disease. And a person dies from disease when all of his available energy has been expended without accomplishing the desired result.

The causes of death are multifarious, and no one can know in advance when and how he is to be struck. The best security is to have within the system a large supply of energy distributed so as to guard against any kind of attack, and not have it concentrated at special points. The professional athlete has a large supply of energy but it is concentrated in special organs and not properly distributed.

A person develops particular powers by exercising them. If a man at one time draws upon the energy in his legs by exercising his arms, at another time draws upon the energy in his arms by exercising his legs, and at a third time draws upon the energy in both legs and arms by bending his back, he is developing his powers of transferring his supply of energy from one organ to another, and that is a desirable quality in preserving life.

When a person is vaccinated against smallpox he develops a resistance which is specific for a particular germ. When he is vaccinated against typhoid he develops a resistance specific to typhoid germs, and when he is vaccinated against other diseases he develops powers which are similarly specific. All such cases as these correspond exactly to physical training which develops the powers exercised. If a person is vaccinated against a considerable number of diseases he has developed in the cells of his body those powers which fight disease, and he is in a better condition to meet an unknown or an unexpected disease than if those powers had not been developed.

To be healthy and to live long, a man should be an all around athlete, that term being used in a broader sense than it is used in sports. And a man becomes such an all around athlete by exercising, one by one, the various powers he finds in his organism. There is no other way.

## A PLEA FOR CONSERVATISM IN THE SURGICAL TREATMENT OF CHRONIC INFECTIONS OF THE MAXILLARY SINUS\*

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At times chronic infections of the antrum of Highmore present a complex problem as to what procedure to follow in effecting a cure of the suppuration. Chronic maxillary sinus disease of a variable duration of time where local treatment is followed by failure to improve or cure or by frequent recurrences constitute an indication for some type of operation. (Loeb, Ayer and Buff.) Improvement means immediate change in the quality and quantity in the discharge from the sinus. Considerable thought should be given each individual case before surgical intervention is undertaken and in a selective type of cases a happy result may be obtained by minor surgical work together with prolonged painstaking after treatment. It is in this class of cases, and they constitute a considerable number, if the disease has not continued too long and consequent pathologic changes are not too extensive that entering into the sinus through the nasal wall, thorough cleansing of the cavity and establishing free drainage together with frequent irrigation afterward, a cure can be accomplished. This is after the manner of Krause by resection of the nasal wall of the antrum under the middle turbinate, but preserving the latter. Entering the sinus is made by puncture, then enlarging the opening with rasp or cutting forceps. The turbinal bone may be fractured if necessary and pushed upward out of the way.

Mechanical cleansing of the cavity stimulates the membrane, producing temporarily a richer blood supply and the kind of fluid used in lavage is unimportant. Complications of maxillary sinus infections are comparatively rare, but if present are bad on account of involvement of the eye, vision sometimes being irretrievably lost very soon. According to Markbrieter, visual field disturbances are frequent in chronic infections. Prompt surgical measures should be instituted upon the first symptom of eye involvement. Unless there are urgent reasons for haste, such as

meningeal, eye or symptoms of orbital abscess present, conservative treatment can be tried.

My experience in a series of cases recently along these lines has convinced me that this simple procedure should at least be tried first before any of the more extensive operations are attempted. Barlow reports cures by this method in 47 per cent of cases. A majority of this class of cases are nasal in origin following severe head infections and a few (25 per cent) are of dental origin, the infection reaching the antrum through the alveolar process from a decayed or infected tooth or through an opening following the extraction of teeth. The maxillary sinus is one of the most frequently involved of all the sinuses, because of the added avenue of dental infection. Two teeth, the second bicuspid and the first molar, are the ones usually responsible. Reinfection in these cases occur from the buccal cavity through a fistula or root canal and keeps up the antral trouble. If the fistula in these dental cases becomes lined with epithelium, the opening will have to be curetted and perhaps plastic work be done. If the fistula is not permanent, by the Krause method and continued irrigation and education of the patients themselves in regard to the mouth, the suppuration will subside. Lyons reports cures in 92 per cent of cases with simple measures in which the duration of the disease had averaged nearly a year. Roots of healthy teeth lying within the antrum as a cause of empyema are found to be rare, as shown by the infrequency that they are noted in radical external operations for chronic empyema and also in examination of museum specimens. Davis, after examination of nearly 300 specimens, remarks that in no instance was the mucosa lining the sinus found in direct contact with the root of a healthy root. Where apical abscesses had been present, the intervening plate of bone was absorbed and the root projected into the sinus cavity in direct contact with the over-lying mucosa. Recently reports (Glassburg) of apical abscesses and loss of teeth has been made where infection in the antrum was shown to be the cause.

Pus and diseased mucosa show minor grades of antral disease but these cases may be of comparatively long standing. Periostitis or degeneration and ulceration of the lining membrane will produce pain in and over the sinus. The

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mucous membrane consists of a ciliated epithelium and a periosteal lining and is very thin, .02 m.m. (Skillern). The motion of the cilia or the mucous membrane produces drainage through the maxillary ostium. This delicate membrane assumes a thick myxomatous mass of tissue under irritation of suppurative process of recent origin. Skillern places no dependence on fetor or consistency of the secretion as an indication for the choice of operation and says he has seen the foulest antrum heal in a few weeks where a nasal opening with lavage has been done. Where the bone of the antrum is necrotic or where polyps, cysts, septa or malignant growths exist it is obvious that simple measures such as heretofore discussed will not suffice, but one of the radical operations such as the Canfield, Caldwell-Luc or Denker will become necessary. Syphilis or tuberculosis in the patient will require additional treatment of these disorders. Ethmoidal and frontal sinus infection accompanying antral disease will also have to be excluded. Complications following radical operations on the antrum of Highmore consist of lacrymal duct stenosis, numbness, and later formation of apical abscesses, with loss of teeth and post-operative secretion and crust formation. Apical abscesses of the teeth follow radical operations because of interference with the nerve and blood supply of these teeth (Meyers). It is well to keep in mind that lesions of the eye and its appendages are more frequently caused by pathological conditions of the nasal accessory sinus than is generally believed. In the search for focal infections in cases where the cause of a systemic disease is obscure, chronic antral trouble may be found to be a factor, and the possibility that these foci may be found in the antrum where no complaint had been made of nasal symptoms should not be overlooked. Recently (Liebault) the cause of a number of cases of persistent albuminuria have been found to have their origin in undiscovered chronic maxillary sinusitis. In debilitated patients with albuminuria careful examination and puncture of the antrum is advisable.

Among my histories of empyema of the maxillary sinus I have had eight chronic cases, which gave very good results under prolonged irrigation of the cavity after entering the sinus through the nasal wall. In two of these cases which

were of dental origin, the fistula through the alveolar process closed quickly by attention to nasal lavage and was in each instance followed by a cure of the empyema. They were, in both patients, cases of antral disease following extraction of teeth. The histories of the other cases vary only as to the length of time the disease has existed.

Case 1. The first case is that of Mrs. S., aged 44 years. Five years ago I performed a radical mastoid operation on the left side for a chronic suppuration of the ear, which she had had since 3 years of age, following scarlet fever. At that time her symptoms consisted of headache, rheumatism, neuritis, general debility, dizziness and pain in the ear. She was greatly benefited generally by this operation and the suppuration from the ear was cured. Two years ago I removed the tonsils because of the return of debility and the presence of pus in the tonsils. She then enjoyed good health until January, 1921, when she caught a severe head cold and suffered from a constant neuralgic type of pain in the cheek. There had been a purulent discharge, with some crusting, from the left nostril ever since this time. She complains of a foul odor from the nose. Tenderness to pressure was present over the left antrum and trans-illumination of that side showed dark. X-ray showed marked increase in density of the left maxillary sinus. Frontals, ethmoids and right maxillary normal by comparison. Temperature was 100. She was extremely weak, very nervous, unable to sleep and in very poor general physical shape. Until I saw her first in May she was having, off and on, acute exacerbations of the sinus trouble. Suction treatment had been carried on intermittently throughout this period. After having obtained her consent, on September 6, under general anesthesia puncture of the antrum was made, the opening enlarged and the cavity thoroughly cleansed. Irrigation with saline solution was made daily for ten days. Twenty per cent. argyrol was injected into the cavity after each treatment. This treatment was continued until September 27 when the patient was discharged and has remained well since that time. The antral trouble had been present seven months in this case and irrigation treatment of the sinus extended over a period of three weeks.

Case 2. Mrs. M., aged 28 years, ten years previous had undergone some bilateral nasal operation by a rhinologist on the turbinal bodies. Six weeks ago following a head cold, pain and discharge of pus began with much odor, left side more involved. Yellow greenish color of the suppuration. Accompanying the nasal trouble were headache, backache and lassitude. Examination shows profuse discharge of pus coming from under left middle turbinate. Trans-illumination shows dark on left side. Patient was not seen again until seven weeks later when she returned stating there had been no return

of the pain until two days before, but free continuous discharge of yellow secretion. X-ray report shows marked increase in density of left maxillary sinus; frontals, ethmoids and right maxillary sinus normal by comparison. Wassermann negative. Temperature 99.8. Nasal examination same as before. Two weeks later, under general anesthetic, antrum was punctured, opening enlarged and much foul, fetid pus washed out. Irrigation continued for 41 days, when patient was discharged, with complete relief of local and general symptoms. The antral disease in this case had existed 15 weeks previous to the operation.

Case 3. Miss M., aged 31 years. Following measles  $3\frac{1}{2}$  years ago has had pain, odor and persistent yellow discharge from right side of nose. The past summer she noticed discharge from left nostril and marked swelling of left eye. She has a good deal of crusting and blows from the nose and spits up thick foul crusts. This patient has been in the hands of a number of specialists who have given local nasal treatments and various medicated nasal irrigations. She is debilitated and has lost considerable weight. She has a small cystic goiter, is very nervous, suffers from shortness of breath and claims some palpitation of the heart. She cannot sleep well because of nasal obstruction. Pain is present over and in the region of the antrum and is very severe at times. Underwent tonsillectomy one year ago. On examination I found marked tenderness over maxillary and frontal sinuses of the left side. Temperature 100. There is free pus coming from under both middle turbinates. Trans-illumination shows dark on both sides. X-ray report shows marked abnormal density of both antrums, more so on left side. Frontal sinuses very large, slightly more dense than normal, sphenoid and ethmoid cells clear. On November 26, 1921, under general anesthesia, the Krause opening was made under the lower turbinate on both sides, much thick fetid pus washed out, the left side being found most involved. Irrigation through the nose was continued until Jan. 10, 1922, a period of 45 days, when the patient was sent to Florida where I examined her two months later and found her entirely well, having no discharge from either side of the nose, with an increase in weight of 12 pounds. The antral disease had been present in this case 3 years and 8 months.

The foregoing histories are typical of these chronic empyemas of the antrum which will heal by window resection of the nasal wall with irrigation, and the details of the other cases will be omitted. The ages varied from 17 years to 57 years. Suffice it to say that all eight patients had undergone various forms of treatment, but with no help. The two patients with antral disease of dental origin had been treated by both dentists and rhinologists. All eight patients had positive x-ray findings. The shortest length

of time the disease had been present in any case was two months and there were two of these, one had been troubled 3 months, one 15 weeks, one 7 months, one 8 months, one 18 months and the eighth case had had antral suppuration 3 years and 8 months. The period of irrigation following the nasal surgery, before suppuration from the antrum ceased continued from three weeks, the shortest time, to sixty-three days, the longest period.

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#### DISCUSSION

Dr. George E. Shambaugh, Chicago: I was very much interested in the report of these cases. The diagnosis of maxillary sinusitis whether acute or chronic presents no difficulties. The question of what to do for these cases is the important one. All forms of treatment from the simple shrinking of the membranes to permit drainage, to the most radical forms of operation are each indicated under certain types. The cases occurring during acute head colds are very common. These are often found when no symptoms indicate their presence. Often the simple shrinking of the membranes in the middle meatus facilitating temporary drainage suffices. The more severe acute cases clear up usually very readily by irrigation, puncturing either through the middle or inferior meatus.

Dr. Welton has emphasized very properly how easy it is to get relief in what appears to be a rather severe case by the simpler measures. I also have been impressed by this fact and have been convinced that the more radical operations, the Denker, and the Caldwell-Luc, are very seldom necessary. Empyema of the antrum of long-standing will usually yield to ventilation, that is by resection of the nasal wall either in the inferior or middle meatus. The old idea that these intranasal openings should be near the floor of the sinus was based on the assumption that drainage was the important question. As a matter of fact it is the ventilation that does the work and it is just as satisfactory that this ventilation is in the middle as though it were in the inferior meatus. Even cases where there has undergone extensive hyperplasia of the mucous membranes get well under this simple treatment.

Dr. Edwin McGinnis, Chicago: I was much interested in Dr. Welton's paper because this is a subject that is well worthy our serious consideration. The antrum differs from all the other nasal cells, in that it is the only one that can become infected from other causes than intranasal. The sphenoid, the ethmoid and the frontal are all infected intranasally, but the antrum can be invaded by infection from a tooth. I agree with Dr. Shambaugh that most of these acute cases get well by themselves. Every time they have an acute cold these patients have an invasion of the antrum, but these clear up spontaneously.

I have been very much impressed with the relation of the anterior ethmoid cells to the antrum. Very often when these infections do not clear up by irrigation we have to irrigate the cells higher up. I had a case recently where the antrum kept filling up and repeated irrigation did not make much difference. We found a naso-frontal duct cell which was infected and with drainage of this cell the antrum promptly cleared up.

Dr. John A. Cavanaugh, Chicago: I agree with

what Dr. Shambaugh has said regarding an opening, in most of these cases. A few days ago I saw an interesting case in a school teacher. It began with inhaling fumes of a rose. The following day she had itching of the eyes and sneezing, watery discharge from the nose; this continued for three or four days. She then consulted her family doctor who thought it was an acute rhinitis. A few days later she consulted him again, at which time a rash had appeared on the neck. He sent her to a dermatologist, who examined the rash and said it was a superficial dermatitis. He prescribed and said that it might be due to the fur collar she was wearing. Vacation week came along and she went to the country for a week. While there she was much worse. There was no pus, but a watery nasal secretion and burning of the eyes, which she thought to be hay fever. On her return to the city she came to see me. Her eyes were red and she still had the dermatitis on the neck. She had not been wearing her fur collar, still this persisted. I used nasal suction and found a clear, watery secretion. X-ray examination showed nothing but a slight blurring of the sinus. She was sent home and told to report in a few days. She did so, complaining of a little pain around the left orbital region. Because of that, I decided it would be well to wash out the antrum. To my surprise, there were about five small globules of pus washed out of the antrum. This did not show on transillumination, suction, or X-ray. Yesterday the rash on the neck was almost gone, the sensation of sneezing, the burning and watering of the eyes had disappeared, but there was still some watery secretion from the nose.

Dr. Willis O. Nance, Chicago, discussed Dr. Welton's paper from the standpoint of one who had recently suffered from acute antrum disease. Dr. Nance was impressed with the amount of pain which accompanies this class of cases. He found that the temporal bone was exceedingly tender and that hot applications give the most relief during the disease. He was also impressed with the large amount of discharge which accompanies the disease just after the acute symptoms have passed. In his own case there apparently were no premonitory symptoms as coryza or sneezing.

Dr. Oliver Tydings, Chicago: I did not get all of the Doctor's paper, but there are some points about maxillary sinus involvement and one is the suction. In all acute cases if you will have the patients put the head in a position for the drainage of the maxillary sinus and use suction, it offers relief to so many of the cases that I do not find it necessary in many of them even to puncture. In washing out the sinus with the ordinary trocar you give a good deal of relief, and this should always be done first before going to extreme measures. One thing we must remember is that these are pneumatic cells and the use of air will often accomplish all that is necessary. I am surprised that Dr. Nance would suffer all that pain when washing



out the maxillary sinus would have given him relief in a few minutes.

With regard to the treatment of some of these chronic cases, now and then we will find pathological changes that have taken place within the cavity of that antrum that nothing but opening through the canine fossa, going in and inspecting by means of the pharyngoscope, and removing any pathological tissue you find, will give relief. After washing and washing and using air, if all those fail, then I go through the canine fossa and find out what is the matter and remedy the condition.

Dr. George F. Fiske, Jr., Chicago: There are a few points that have not yet been brought out that are very important. I have been unfortunate enough to suffer with chronic catarrh since early childhood, and I find one thing absolutely essential, that I cannot get along without, and that is a strong spray. I use 6 per cent menthol with 3 per cent creosote, with oil of eucalyptus to make it smell good, in a petrolatum base. I find that keeping the nose clear is the only thing that helps me. Removal of the vicious circle is of very great assistance.

I think no one has mentioned the use of 1 per cent mercurochrome. I find it much better than any silver salts. Dr. Church was relieved with one injection of mercurochrome, without any pain. Sometimes three are necessary. I think the main principle is to keep the nose clear, wash out the antrum, and inject any of the modern solutions, preferably mercurochrome.

Dr. Willard Brode, Chicago: There is one form of treatment as an adjunct to cleaning up many of these signs of infection, and that is the use of the quartz lamp. I have used it for a year and a half, and in many cases noticed marked improvement after the treatment. I use the ordinary Kromeyer lamp, starting with two minute exposures at a distance of eighteen to twenty-four inches, and gradually increasing the intensity of the light by making the distance greater, and also increasing the time of exposure. I find that after the other methods clear away the debris, I get good results through the stimulating rays of this lamp. I would suggest that you try it in some of your cases. It has given me excellent results, and I am sure you will not be disappointed.

Dr. C. B. Welton, Peoria (closing): The title of my paper was surgical treatment of chronic antral disease. The point I wish to make in these cases is that in spite of anything and everything you will do in some cases, with radical operation and everything, you will not cure the antrum. In my own city I have a couple of doctors who have been operated on by conservative methods and by radical methods. One was operated upon by Mosher and he still has a discharging sinus. They are very mean things when they have lasted a long while, as these have. Therefore try the conservative treatment first, as good results follow in many of these cases.

I also mentioned in the paper that the other

sinuses would have to be excluded, as they certainly will.

I believe, as do the other men who have discussed these papers, that the main thing in these cases is ventilation, but where you have the old chronic cases you have to get rid of the pus and discharge and you have to have an opening that is big enough and you have to have drainage as well as ventilation. I do not believe ventilation alone will cure the case.

As to a cure, I consider the cure when the discharge has stopped and the symptoms are gone. As to the x-ray, I do not place so much dependence on the x-ray picture and think it should be used only as an adjunct to the other procedures. I have found that any acute process in the antrum is likely to leave a shadow that shows afterwards in the x-ray pictures. I have had patients undergo such processes as Dr. Nance has now, and if you ray those cases years afterward you will find a shadow, although there is no chronic trouble.

As to anesthesia, I wish to say these cases were all given general anesthetics, because they were all debilitated. If a patient is in good shape I would only use a local anesthetic, but these cases were all of long standing, all in poor general health, and I had to use a general anesthetic.

## A MODERN PROGRAM FOR THE TREATMENT OF SYPHILIS\*

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Since 1903 when Metchnikoff and Roux successfully transmitted syphilis to lower animals our knowledge of this disease has progressed rapidly. Probably in no other field of medicine have so many remarkable advances been made in so short a time. The three most important discoveries have been the spirocheta pallida by Schaudinn and Hofmann in 1905, the Wassermann test and the arsphenamines. Contributions are continually being made and our knowledge of syphilis and its treatment is being based more and more on scientific facts.

Syphilis is a disease in which the individual as well as the disease must be treated. It is impractical to lay down any definite set of rules for any patient or set of patients. There is no disease that requires quite as much patience and perseverance on the part of physician and patient as syphilis. We know now after several discouraging years that arsphenamine is not the

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agent it was first thought to be; that it requires not one but many injections of this and many more of mercury to effect a cure. We have learned that sodium cacodylate is absolutely valueless in the treatment of syphilis and that K. I. while it is a valuable remedy to be used in the late secondary and tertiary stages, is not a spirocheticide and should not be used as such in the early stages.

We are not doing right by our patient if we do not insist upon some definite form of program to be followed out and followed out conscientiously. A few injections of arsphenamine given haphazardly, and a few injections of mercury or mercurial pills by mouth are almost worse than no treatment at all. The patient feels that he is protected and neuro-recurrences are the result.

It is solely the aim of this paper to lay down a few of the principles with an outline of the program followed out in syphilis as practiced in one of our large medical school dispensaries.

We have in the arsphenamines and mercury the drugs to cure syphilis provided that we start early enough and treat it intensively enough. Arsphenamine is distinctly a spirocheticide and acts probably as an artificially produced antibody combining with the spirochete by means of the benzol ring very much as antibody is bound to antigen. Mercury is probably also a spirocheticide and probably also stimulates immune body formation. At all events both are extremely necessary in any modern method of treating the disease. We have felt that a combination of the two as will be outlined later is far more curative than the use of one alone. The use of mercury should not be neglected because this drug is a valuable one and for years was our sheet anchor.

Our program is guided by the age of the disease. If a patient presents himself with what appears to be an initial lesion, a careful search is made for the spirochete, using the dark field stage. If the organism is found, treatment is immediately begun. Our method is with slight modifications the one outlined by Dr. Ormsby in the *Journal A. M. A.* of July 3, 1920. It is a modification of one suggested by Dr. S. Pollitzer of New York.

The patient is given the first day an injection of .2 gms of arsphenamine, a small dose to guard against any idiosyncrasy he may have to arsenic. Two days later he is given .4 gms and two days

after this another .4 gms. This has been the average dose used. It has seemed to us that the size of the dose had a great bearing on reactions. We have gradually increased the dose in some patients and have found in some cases that varying the dose five centigrammes would make the patient feel sick and uncomfortable. After these three injections of arsphenamine he is given mercurial treatment for three weeks. Another series of three doses of arsphenamine given at the same intervals follows this mercurial treatment, and then follows six more weeks of mercury. This constitutes a course and consumes about three months. The patient is then given a rest of six weeks. He reports at the end of that time and is carefully examined physically, especial attention being given to urine analysis, and a Wassermann is made. We have found that the Wassermann in the majority of primary cases so treated will return negative at that time. It will however often return positive again in two or three months if treatment is stopped at that point. He should either be carefully watched or else more treatment immediately instituted. We have felt that in this type of case three or better four such courses should be given.

In the secondary stage cases the treatment is practically the same as has just been outlined. The exanthem fades out, mucous patches disappear and the patient acquires a feeling of well being he has not had in months if he follows out the treatment conscientiously. It is in this type of case that arsphenamine acts almost miraculously. To get and keep the patient serologically negative however he must be given about four such courses.

In treating old cases or cases of the so-called tertiary stage, the program must be altered considerably. We must individualize the patient and carefully ascertain the aim of our treatment, taking into consideration the damage already done to vital structures. Our aim in such cases is not so much to get a negative Wassermann as it is to relieve any chances of infectivity and to carry the patient through a normal remaining period of years without doing too much damage to vital structures with intensive treatment.

It is well to remember when treating these old cases, as Schamberg, Kolmer and Lucke have pointed out, that arsphenamine produces demonstrable effects chiefly on the liver, suprarenals,

and the blood vessels, and mercury on the kidneys and brain.

**Cardiovascular syphilis:** In this type of the disease and probably many late syphilitics show some signs of cardiovascular involvement, Iodides and mercury are the drugs that should be given preference. Most internists believe that arsphenamine is dangerous in that it may cause rupture of some important vessel by causing too sudden resolution of a syphilitic lesion. They also state that the introduction of a quantity of fluid is hard on an overtaxed circulatory system.

In syphilis of the kidney, which is generally characterized by a high albumin content of the urine with relatively few casts, small doses of arsphenamine are infinitely better borne than is mercury.

Syphilis of the liver should be treated with both arsphenamine and mercury. If jaundice develops it should always be borne in mind that large doses of arsphenamine and mercury conjointly used may cause such jaundice. Early syphilis of the liver and gummata respond readily to treatment and should be treated intensively.

**Syphilis of the central nervous system:** In this group should be mentioned tabes, paresis, meningitis and endarteritis. There also may be gummata of the brain or cord. These conditions can all be treated with arsphenamine and mercury as outlined above except probably not so intensively. In gummata, myelitis or endarteritis a course of mercury and iodides first is preferable.

As to the value of intraspinal and intravenous methods of treatment of this type of the disease some neurologists favor the intraspinal treatment, others condemn it. In a recent article Schaller and Mehrtens of San Francisco have reported their results in the treatment of 208 cases of central nervous system syphilis. Their conclusions are of great interest.

Intravenous and intramuscular therapy caused symptomatic improvement in the majority of cases. Serologically only 19 per cent. cleared up entirely. This treatment was more efficacious in the meningeal, vasculo-meningeal, and diffuse types. Spinal drainage in addition to the foregoing results impressed us as a definite advance, both in ability to ameliorate the symptoms and in its tendency to improve the spinal fluid pathology.

Intraspinal medication was superior to the intravenous and intramuscular methods in its effectiveness in clearing up the spinal fluid. Forty-eight per cent. of cases became clear through the use of the intra-

spinal medication compared to 19 per cent. with the intravenous method.

The most useful field for intraspinal therapy is that of the meningo-parenchymatous types including tabes. Patients with optic atrophy and with tabes without meningeal reaction received no benefit. Patients with parenchymatous lesions including paresis did poorly, but 25 per cent. of the cases thus treated cleared up serologically and clinically. A remission was at least effected.

In the treatment of individual cases of neurosyphilis it would seem proper to begin with intensive intravenous and intramuscular medication, particularly in vascular, meningo-vascular, and diffuse lesions. Failure to reduce spinal fluid findings to negative after a thorough trial should suggest the advisability of using more intensive methods. Drainage combined with intravenous injections should be the procedure of choice when the facilities for more complicated methods are lacking or when symptoms of increased spinal fluid pressure are distressing. The Swift Ellis method should be reserved for cases resistant to the foregoing efforts.

In our program of treatment we have used for the past year arsphenamine and for mercury have employed soluble mercuric chloride, 1 per cent. in physiologic sodium chloride solution, in a dosage of 35 minims twice weekly, or the insoluble salt mercury salicylate, 10 per cent. emulsion in liquid albolene, in dosage of 10 minims every five days. Arsphenamine has been administered by the gravity method, thus avoiding the painful infiltrations so often obtained by using a syringe. We have used a small glass funnel with a capacity of 100 cc. for holding the drug. It has a rubber tubing attachment and the apparatus can be held in one hand while inserting the needle with the other. The needle gage has been 20. Freshly distilled, reboiled water is used in dissolving the arsphenamine, 20 cc. of water to .1 gm of the drug. We have aimed to consume at least five minutes in giving the injection.

The benefits derived from such a program as has been outlined are many. The patient is rendered non-infectious in a very short time and all cutaneous signs of his disease disappear.

There are however unfortunate complications that do occur and these deserve mention. First are the so-called anaphylactoid reactions, so-called because of their resemblance to acute anaphylactic shock. These symptoms come on either during or immediately after the injection. The patient complains of a sense of constriction about his chest becomes dyspnoeic, the face becomes flushed,



at first a pink, later a dull red, the lips are swollen, the conjunctivae injected and the pulse and respiration accelerated. The injection had best be stopped at this point and the patient allowed to sit up. He soon regains his normal condition but if the reaction persists, 8 to 10 minims of a 1 to 1000 solution of adrenalin chloride may be given. The principal phenomenon of this peculiar syndrome is a pronounced vasoparesis followed by a fall in blood pressure. Schamberg suggests that this may be due to an inhibition of the production or secretion of epinephrin. Suprarenal suppression induces a similar picture. These reactions have been eliminated almost entirely with our more careful methods of giving the drug. An empty gastro-intestinal tract is of value in preventing this type of reaction. It is well to have the patient take a brisk cathartic the night before and have an empty stomach when taking the injection. Then we usually forbid their eating anything for four or five hours after the injection.

Delayed reactions consist of nausea, vomiting, diarrhea, headaches and a sense of malaise and are often present 24 to 48 hours after an injection.

Exfoliative dermatitis is a more serious type of reaction. This consists in at first a generalized erythema of the body surface, generally developing a few days after the last injection. The skin at first is a bright red with symptoms of itching and burning. Later the cutaneous reaction becomes more severe and intense until there is definite weeping with consequent crusting over most of the body surface. These patients suffer severely and are hospitalized for at least three months. In a number of cases we have seen at the County Hospital the patients gave a history of not feeling well after each injection, of headaches, feelings of malaise, and in a few cases of a developing erythema. In fact in all of the cases there was ample warning given the operator that all was not going well.

In clinics in which the patient is given arsphenamine alone or mercury alone for a period of time, that is when the two drugs are not conjointly used this phenomenon has not occurred.

Schamberg consequently believes that it might possibly be due to the conjoint use of mercury and arsphenamine and can be explained in this way. Mercury in vigorous dosage may severely

irritate the kidneys and inhibit the elimination of arsphenamine. Within a short time after an injection of this drug most of it disappears from the blood and is lodged in the different organs, the liver especially. If the eliminating activity of the kidneys is impaired it is obvious that the arsphenamine will remain for a longer time and in larger quantities in the liver for which it has a special affinity. Too long a residence in the liver may cause the drug either to become oxidized with the production of arsenoxide or the arsenical radical may become split off and produce the symptoms of arsenic poisoning.

Among the other reactions of serious import are acute yellow atrophy of the liver, persistent jaundice, and encephalitis. Jaundice can be explained in the same manner as exfoliative dermatitis.

Mercury can also be productive of great damage if not watched carefully. While its effects are not quite as dramatic as are those of arsphenamine, it can produce serious nephritis, uremia and death.

It follows then that in the treatment of syphilis we have two exceedingly valuable drugs. Their use is not without some danger. We should therefore use every care and caution in preparing our material for injection, and should ever be on the alert for unfavorable symptoms. We should treat every case individually, and submit the patient to frequent medical examinations and urine analyses.

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#### DISCUSSION

Dr. John Ridlon: When Dr. Oliver closes his discussion, I would be glad to hear from him something more on the ill effects of arsenic preparations on the blood vessels.

I have had the opportunity to see a considerable number of so-called Charcot's spine following syphilis.

In seeking the cause of it, the query has come up: May it not be due to the evil influence of arsenic on the blood vessels?

Only three or four months ago Dr. Funston of Iowa City reported a case of Charcot's spine, and said that only fifteen cases had been reported in the entire medical literature and only one of those in this country. The statement surprised me so much that I began looking up my cases and expect with the aid of Dr. Berkheiser to report ten or twelve. When a man not having a large practice—and I have not a large practice—in one day sees two cases of Charcot's spine in his office by chance, we are getting more Charcot spines than we used to have forty years ago.

I would be interested in hearing Dr. Oliver comment on this.

Dr. A. S. Hershfield, Chicago: The neurologist is the one usually heard about today in treating neurosyphilis.

Dr. Oliver is quite conservative. The consensus of opinion among neurologists is that any form of treatment of neuro-syphilis has not been very successful.

We thought when the Swift-Ellis treatment came into effect that we had something. And Swift and Ellis, while still doing it, are not very happy about it. Then there came the modification. Then they tried to inject the medicament high up into the spine, and so forth, and the results have not been encouraging.

We must remember that once the nervous tissue is destroyed for any reason it is never regenerated, especially brain tissue and spinal cord tissue. We only hope to save what we can. But by the time the neurologist gets it, it is pretty well destroyed. There are cases on record where the crises have pretty well subsided under the treatments which they record.

Paretics have shown clearer mentality for a while, but they have relapsed. And if we remember also that paretics have remissions naturally in the course of the disease, a good many of the results have not been due to the medicaments but due to the fact that the remissions come in the course of the ailment.

One of the greatest problems the neurologist has to confront in neuro-syphilis is the superior tabes form. Where there is only an optic atrophy, he doesn't know what to do. Most of the fibres are already destroyed and mercury hastens destruction of whatever fibres are left. Salvarsan is not so bad, but still it has been proven that where there has been a progressive optic atrophy the mercury has destroyed the remaining fibres.

Dr. William Fuller: I would like to ask Dr. Oliver a question: How does he determine when a patient with syphilis is cured? What assurance does he give a patient after the treatment he has outlined here, that he may feel that further observation will not be needed?

No methods by which we aim to determine a cure of syphilis are, as far as I understand them, reliable. A patient who has never had syphilis, or who has had it and been cured, may present a positive Wasserman. Again, a patient who has syphilis may repeatedly show a negative Wassermann.

I ask these questions because the surgeon frequently meets instances which are unquestionably surgical, but yet lying behind them is also unquestionably uncured syphilis. Clinical histories, and clinical manifestations are notoriously misleading; and with the Wassermann test falling a little in popularity every year, seem to leave us unable to say just when a syphilitic patient may safely have judgment passed upon him.

Dr. Albert E. Mowry, Chicago: I am glad to see Dr. Oliver rather favoring soluble mercury, and getting away from arsenic. I know what his feeling is in the matter. I think we should discourage the use of arsenic in the treatment of syphilis. I don't think we cure many cases of syphilis by the use of arsenic, and the damage we often do with the use of arsenic is unjustifiable.

I know that with the use of soluble mercury, such as he suggests, used carefully, intelligently, intramuscularly, most cases are cured, so far as we know what cures mean in syphilis.

Arsenic, in my experience, has been very unsatisfactory. Dose after dose only delayed the cure I should have had by the use of mercury properly injected. Intravenous injection of mercury I don't think will do the work that intramuscular injection will do. Intramuscular, properly injected, will cure nine cases out of ten. I am sure of that in my own practice where I have had a chance to watch the cases.

I am glad to see Dr. Oliver come back to soluble mercury. The quick action of mercury gives you an action that you can't discount. The mercury is out of the system in forty-eight hours and the system is ready for another dose.

The first dose of mercury should be small, because you sometimes start something—those are the cases where you get up in the night and the patient wonders whether he is going to die.

I have some cases of tabes in the clinic now, that have been under observation for five or six years, in very good shape by the use of injections of soluble mercury intramuscularly.

Dr. Edward A. Oliver, Chicago (closing): I am very sorry I can't answer Dr. Ridlon's question. I don't know enough about that subject.

In answer to Dr. Hershfield, I think the best treatment of neuro-syphilis is the prevention of neuro-syphilis by early and intensive treatment.

What I hoped to emphasize was the need of some definite program. We all know that many a patient is given an injection of arsphenamine, when he has the price to pay for it, and no definite program is followed out.

I think there are some very interesting facts given by the authorities I cited. I was very much impressed with the article published in the January number of *Archives of Neurology and Psychiatry*. They thought it best for everybody concerned to start with intravenous and intramuscular treatment first; and then, if the patient did not improve as rapidly as could be expected, to resort to more complicated treatment.

There is no doubt that some cases of nervous syphilis, whether it is only temporary, do improve on

treatment of ordinary syphilis. And there is no doubt that lots of cases of tabes have improved under the Swift-Ellis method of treatment. I do not think for paresis anything is of much value.

I am well acquainted with Dr. Mowry's view of the subject. He and I have been in the Army together. We have argued it many a time. I don't altogether agree with him. I think mercury is a very valuable drug. Arspenamine is also a valuable drug. The two should be used together. I believe if we were to use one drug alone I would prefer mercury, but the two are much better than one alone.

## THE OPEN AIR SCHOOL AS A FACTOR IN PREVENTIVE MEDICINE\*

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Open Air Schools have been established in sufficient numbers and over a long enough period of time so it is possible to draw some conclusions as to their value. The teachers, physicians, nurses, and social workers, who are occupied in carrying on the schools, almost without exception, declare that the extra effort and money required to maintain such schools is well worth while.

The first School of this type in our country was opened in Providence, Rhode Island, in January, 1908, for the benefit of pretuberculous children and those suffering from heart trouble. This school was planned after the Open Air School started to lessen the time of morbidity for convalescent children, in Charlottenburg, Germany, in the year 1904, where the treatment worked so well that to the surprise of the authorities, the children improved mentally as well as physically.

The New York Board of Education started some twenty open air classes throughout the city in 1909. In Chicago, in 1909, The Chicago Tuberculosis Institute and the Board of Education started your first open air school. That fall the Elizabeth McCormick Memorial Fund gave liberally to help maintain an open air school and helped develop your present system. Since that year, because of the quick spread of the fresh air school idea, the number has grown rapidly all over the country manifestly filling a long-felt want. It is hard to get exact numbers; however, an estimate late in 1921 gave over 3000 such schools in the United States.

The propaganda for open air schools has been,

almost without exception, initiated by tuberculosis societies or individuals especially interested in tuberculosis in children. But the regimen of such schools and the special attention given to pupils by physician and nurse, has quickly made them popular for other types of subnormal children. Private philanthropy and foundations have aided financially in opening the schools and later the expense has been taken over either entirely or in greater part by the local boards of education.

The Massachusetts Department of Public Health made a survey throughout the state, of open air schools and open window school rooms in 1919 and 1920. The results of the survey showed that the school and health authorities varied widely in opinion as to their value, ranging from strongest approval to strongest disapproval; this wide difference of opinion being due apparently to the fact brought out that there is no definite standard of regimen in the Massachusetts schools; all providing fresh air, some, in addition providing food, and some providing food and rest with the fresh air. The type of child chosen for these schools was also various; some schools working to prevent only communicable diseases; some to overcome malnutrition; some to help any subnormal child and some to keep well children well. The medical examinations also differed in frequency and scope. In the open window rooms there were 1000 well children in the effort to keep well children well. There were 1137 subnormal children in open air schools and 690 in sanatorium schools. A total of 1827 children in the state, in fresh air schools or three-tenths of one per cent. of the total school population of Massachusetts.

The New York City monthly bulletin of the Department of Health for June, 1921, is unqualifiedly favorable to the plan. Their number of children in open air classes is 3110. This large number cared for with satisfaction to the authorities carries certainly great weight. But there is a uniform standard for these classes.

The Chicago open air work has been of such a type that it has been a pattern for the rest of us to follow and its results have been uniformly favorable.

The plan for the equipment of an open air school has become more definite with experience

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fill now the country over there is a certain standard that is expected. First:

For fresh air:

That at least three sides of the school room or building from a few feet above the floor should be open. Windows or curtains may shut in a part of this open space when the weather is stormy.

For food:

That a hearty hot dinner be provided the pupils, a morning lunch and glass of milk before the pupils leave school for the afternoon is given if possible.

For rest:

At least an hour is passed lying on cots in the open air school room. This rest time to be either just before or just after dinner, and often a half hour is added just before dismissal. There must also be provided extra warm clothing for these children, the quality and quantity depending on the climate.

The classes are small, the maximum is not more than 25 pupils for one teacher. So individual attention may be given and the quality of the mental work done by the children is that expected of normal children though the quantity may or may not reach the standard, according to the kind and extent of the subnormality of the individual pupil.

Medical inspection and the services of a school nurse are as essential as teachers in open air schools. The open window rooms need much less equipment; the windows are hung so they open into the room from the top of the sash to provide the maximum amount of air and the minimum amount of drafts. The usual heat is turned into the room and it is only necessary for the children to wear their ordinary outdoor wraps. As a rule, there is no rest period arranged for and no food provided. This type of room is admirably adapted to keep well children well.

Open air sanatorium schools are of quite a different type—as they are for children so ill they need hospital care and are usually open cases of tuberculosis. Oddly enough the idea of such a school came from a group of children themselves, who to hasten their convalescence were sent to an open air hospital on a ferry boat in New York harbor. The little folks planned to strike if not provided with a teacher. The pupil

of a sanatorium school has its mental work prescribed as well as medicine by the sanatorium physician and each one is under the daily supervision of physician and nurse as are the other patients of the hospital.

Children are chosen now for open air schools for many more ailments than formerly, though probably there will always be more of those suffering from respiratory diseases, than any other one illness. The following list of causes that take children into an open air school will give an idea of the scope that that type of school may play in preventive medicine—open cases of tuberculosis are excluded as are other cases of contagious diseases:

Arrested tuberculosis of the lungs.

Suspicious of tuberculosis.

Contacts of open tuberculosis cases in the family.

Gland and joint cases of tuberculosis in the non-contagious stage.

Chronic bronchitis with or without emphysema.

Heart disease except those cases accompanied by nephritis.

Anemia.

Convalescence, especially from pneumonia, pleurisy, empyema, influenza, infections, operations.

Spinal curvatures.

Nervous disorders not chorea.

A number of children are included who are suffering from removable defects as bad teeth, diseased tonsils, and enlarged adenoids.

Eye and ear defects—troubles that when adequate medical inspection of our public schools is carried out, generally, will be looked after in the ordinary school.

Malnutrition without some accompanying ailment is not considered a sufficient reason for putting a child in the open air school.

The mentally deficient child, who is not ailing, does not belong in such schools. He should receive what he especially needs in the ungraded room.

It has been estimated that the number of children who would be benefited by the open air school regimen is from 3 to 5 per cent. of the total school population of a community.

The concrete example I wish to give of the preventive medical work done by the open air method is that of our school in Jacksonville, Ill. This is a town of 16,000 inhabitants with a school population of 2,200. Taking 3 per cent. of this number, we should have 66 pupils yearly in our school; however we have afforded so far,

only accommodation for 45. The school was started on January 7, 1914, through the initiative of the Tuberculosis League and the hearty cooperation of the school board and the town.

The following resumé of the medical work done in the school is of the last three years. There has been an average yearly enrollment of 46 children. The length of time for each pupil in the school has been from one-half to three years. Seven have been in the three years, 36 two years, and 37 one year, the others at varying periods between one-half year to three years; there was a total of 87 different pupils; of these 16 are colored. The pupils have been admitted and dismissed only by the advice of the medical director. The ages of the children have ranged from 6 to 15 years. The cases cared for have been:

Tuberculosis 22: arrested pulmonary tuberculosis 17, joint tuberculosis 3, gland tuberculosis 2.

Contacts 47: Of the contacts, 17 show definite signs of tuberculosis, 22 are suspects, 8 show no signs or symptoms of tuberculosis.

There are 8 who are suspects but not contacts.

As the diagnosis of tuberculosis in children is more difficult than in adults, so standards evolved for the examination of children are of great value. In the method of examination published by the National Tuberculosis Association, which was used, dependence was put on the following symptoms:

Loss of weight and strength.

Fever.

Presence of rales not essential.

Altered breath and voice sounds.

Dullness parasternal and interscapular.

D'Espines sign.

Examination of sputum.

Exposure.

Skin tests—Von Pirquet, Moro.

Cough.

Rapid pulse.

X-ray: Roentgenoscopic examination and stereoscopic plates.

(Our Board has not been able to afford the stereoscopic plates.)

The preventorium cases have included the following maladies:

Heart trouble.

Anemia.

Chronic bronchitis.

Chronic bronchitis with emphysema.

Rickets.

Hereditary syphilis.

Impetigo.

There were 62 Roentgenoscopic examinations made through the kindness of Doctors Chapin and Cole. Thirty-seven of these observations seemed to us to show a similar diagnosis as that made by the physical examination; 21 observations showed more marked signs of disease than were discovered by physical signs and in 4 children the Roentgenoscope showed less disease than by physical examination. We were quite pleased with the results of the Roentgenoscopic work until we read the first report of the Committee of the National Tuberculosis Association on X-ray findings in the chests of children when we learned that such experts as Doctors Dunham, Pancoast, and Baetjer said that they did not know as yet, how a normal child's chest should look.

Forty-five sputum tests were made, all negative. Of the skin tests, 52 Von Pirquets were made; 39 were negative, 11 positive, and two not read. I have no explanation of the large number of negatives. Certainly the usual experience is that there are many more positives than negatives in children of school age. First it was thought that the tuberculin was at fault, so we bought some from a different firm but with the same results; the nurse had been giving the test, later the doctor tried giving it, both nurse and doctor reading the result, yet with the same proportion of negatives; then we sharpened the scraper, still with the same results. Eighteen Moro tests were given; 10 were positive, 7 negative, and one not read. D'Espines sign was almost always positive; suggesting that it may be possible that the bronchial glands in childhood are normally large.

It was the plan to get rid of all removable defects of each new pupil as soon as possible after admittance to the school. The most frequent one was bad teeth—the next, diseased tonsils and enlarged adenoids—our dentists and specialists have looked after these defects except when the parents have refused to allow such care. The orthopedic work has been excellently done by Dr. East of the State Department of Health, in cooperation with the local surgeons. The defec-

tive hearing and defective vision cases have been seen by specialists and treatment and glasses provided when indicated. That is, the children have been put into a condition where they are "free to gain" early in their stay in the open air school. This sounds as though 100 per cent. of the removable defects were cared for. This is not the case as we have the usual number of parents in our town ruled by various cults, whose ways are not always the ways of scientific medicine, but certainly most of the children have had their worst defects cared for.

The results of the open air school life on the almost universally present malnutrition in the pupils is shown by a study of the measurement and weight charts. Seventy-eight of the 87 children gained each year from 3 to 12 lbs.; a child 8 to 11 years old should gain four and a half pounds yearly. Over half, 48, gained the four and a half pounds or more; two are over weight; 3 lost, the greatest loss being one pound; 4 remained the same weight. Those who lost or did not gain had some illness or were in families from whom there was no cooperation and the social conditions were deplorable; the services of a trained social worker are a great aid in conducting an open air school. In the course of the 3 years, 42 of the 87 pupils were considered well enough to return to the regular schools. From the opening of our school, it has benefited by mental clinics held first by Dr. F. P. Norbury and latterly by members of the staff of the Jacksonville State Hospital.

To draw conclusions from such a small number of pupils as 87 is not safe, yet as one studies the records of these children, it is plain that a great deal has been accomplished for them. The physical condition of 7 of them has been such that they could not have been in any other school. Those that had arrested tuberculosis have had no recurrent attacks. The contacts and suspects were so built up that apparently they are safe. The heart cases have had an opportunity to make the necessary compensation. Lessening the time of convalescence is a great factor in helping children to get their education. Anemia and malnutrition have been overcome simply by the hygienic living, rest and wholesome food.

To get the removable defects cared for is far easier for pupils of the open air school than for those of the regular schools.

The greatest accomplishment of this type of

school is that it teaches its pupils a regimen that not only helps them in their present state of physical unfitness but will help to prevent future disability.

Another lesson it has taught is to give the normal child a more hygienic school life. That is, the study of the subnormal child and his needs have shown us that the usual child needs more fresh air, more rest, and often more and better food, and less nervous strain.

That medical inspection of all schools would help to prevent defects forming in the children or if formed, that they may be cared for early. This lesson has been greatly emphasized by the knowledge that came through a study of our draft army—20 per cent. of our young adults were refused by the army because of ailments that might have been removed in early school age.

The medical ideal for an open air school should include the treatments necessary to prevent the diseases that can be avoided such as: typhoid, diphtheria, and smallpox. Our own experience with smallpox forced home this lesson. One year we had 26 cases of smallpox in the county and we determined that every child in the open air school, at least, should be vaccinated until protected. One of the children by accident escaped vaccination; and that unfortunate child contracted the disease, the only one in the school who had it. As we are in the goiter region, iodine should be given the pupils Fall and Spring after the plan worked out in Akron, Ohio.

What has been accomplished toward preventive medicine by the open air school is only a beginning, that one hopes will lead to the time when compulsory education will not mean a spreading of contagion but a means of prevention of disease.

#### DISCUSSION

Dr. Wilson Ruffan Abbott, Surgeon Reserve, Fort Bayard, N. M.: The part I wish to discuss is the D'Espine's sign, which is accepted as being of considerable value. The explanation given that this sign is due to enlarged mediastinal glands is not, I believe, in accord with sound physics. You will get D'Espine's sign if the enlarged glands have been followed by fibrosis, but with enlarged glands that are soft, you will not get a D'Espine's sign. In other words, it is indicative of trouble beyond the point of the sign itself. I think that is something that every physician ought to continually bear in mind in evaluating the sign. I do not think it is necessarily due to the fact that there is a large or active gland transmitting the sound. That



is not sound physics; it will not stand analysis unless you consider the gland as having passed to the stage of fibrosis.

Dr. W. B. Metcalf, Chicago: I am much interested in the paper just read and wish to compliment the Doctor on her broad survey of this important subject, namely, the observation of school children with a special reference to tuberculosis. I feel that in this new branch of preventive medicine we are getting at the root of one of the best fields. Several interesting points were brought out. Dr. Abbott has discussed one and another was the Doctor's experience with tuberculin and the von Pirquet test. I am surprised, as she said she was, that she did not in these cases which evidently had definite physical findings procure a definite von Pirquet. The only explanation to my mind would be based on one of two things: The question of the tuberculin, but she said she tried many makes. After several years' experience with tuberculin I have not yet become enamoured with the American product. My experience has been that the American product has not equalled the foreign product. We do know that in cases of advanced tuberculosis we may not have a tuberculin reaction. There are two conditions in which you will not get a tuberculin reaction,—one in the absence of tuberculosis, and the other in the presence of massive tuberculosis. That may explain it, but I would favor the view that it was the tuberculin used rather than to doubt this specific diagnostic aid.

Dr. Josephine Milligan, Jacksonville (closing): Just a word about D'Espine's sign. Some ten years ago when we first began using D'Espine's sign we thought that it always meant that the bronchial glands were in the fibroid stage of tuberculosis, but we know now that the sign may mean that the glands are in the fibrous stage of any infection. Our children were not given the von Pirquet test unless they were under ten years of age; over ten we used the Moro test.

## THE MAKEUP OF THE NEUROTIC\*

MEYER SOLOMON, M. D.  
CHICAGO

This very condensed presentation of my views on the makeup of the neurotic is in harmony with the views of such students as Beard, Weir Mitchell and Dercum, as well as those of foreign authors, especially English and French, who have followed in the footsteps of Beard. My views agree in certain respects with those of such psychopathologists as Dubois and Janet in France, Alfred Adler, the psychoanalyst of Vienna, and our own Boris Sidis. Many of the traits mentioned by Freud, Jung and others are but superimpositions upon the fundamental makeup as here described.

*Definition of Terms.* By the "makeup" I mean the constitution, with special reference to the dynamic or driving forces which make the neurotic what he is. By "neurotic" or "nervous" person I mean an individual with a pathologically or abnormally sensitive or irritable nervous system, not due to gross organic disease within or without the nervous system.

I shall discuss more particularly the congenital neurotic, but nervousness or neuroticism from other causes produces similar symptoms, generally in less pronounced degree and for briefer periods.

The difference between the neurotic and the normal is one of degree in sensitiveness or reactivity, with the superadded manifestations mentioned later. Otherwise both persons are the same.

*Thesis.* The main contention in this paper is as follows: All of us are in a state of unstable equilibrium. The neurotic is in a state of relatively greater unstable equilibrium than the average person, is subject to disequilibrium more easily, more frequently and more markedly than his average fellowman, and must struggle for poise and equilibrium more constantly, vigorously and persistently. The problem reduces itself to a study of the causes and manifestations of the disequilibrium and of the efforts to gain poise and equilibrium. The causes of nervousness will not be discussed in this paper.

### THE NEUROTIC'S DISEQUILIBRIUM

The neurotic's disequilibrium or lack of balance is shown by the following traits: 1. Relatively increased nervous instability. There is over-sensitiveness, over-reactivity, excessive impressionability, undue irritability, abnormal responsiveness, or pathological excitability. This is nervous system irritability at one or more levels in the nervous system. A typical example of this over-responsiveness to stimuli is seen in the neurotic's disturbed equilibrium from noise or sudden or excessive stimulation, irritation or shock of any sort, internal or external. 2. Oversuggestibility, which may be general or special. If general, the oversuggestibility may lead to excessive credulity and uncertainty, overflow of ideas with multiple tendencies and resulting mental conflicts, indecision, doubts, scruples, distractibility, circumstantiality, mental confusion,

\*Read before the Chicago Neurological Society, March 16, 1922.

and the desire to do too many things at one time, even to see, know, do and be everything and everywhere. Special suggestibility leads to marked habit formations, with fixations, stubbornness, singletrackmindedness, and excessive domination by ideas. 3. There is a greater than the average lack of control, restraint, domination or direction of self, with relatively deficient powers of inhibition, suppression or repression. This may show itself in the patient's thinking, emotions, speech, behavior and decisions. 4. Nervous and mental excitability exist. It produces impulsiveness and explosiveness. Very characteristic and troublesome is the tendency to hurry and rush. This is responsible for the tendency to or craving for the immediacy of execution of ideas, wishes, desires or impulses, with consequent impatience and jumping to conclusions, expression or action. Associated with this we find the tendency to anxiety, worry and emotionalism on slight provocation and of excessive degree. In other words, the neurotic is overcharged, driven too fast or powerfully by ideas, with resulting unrestrained activity and overintensity. 5. Fatigue results at one or more levels in the nervous system, producing functional symptoms, which may be visceral, skeletal, cerebral, intellectual, emotional, or moral (will power). 6. Nervous and mental tension, stress or strain is felt by the patient, with feelings of unrest, uneasiness and restlessness, evidences of which are seen in the patient's behavior and on examination (fidgetiness, constant wasteful bodily motions, picking nose or lips, biting the nails and the like, with exaggerated knee jerks, and tremor of the extended fingers). 7. Awareness of these conditions becomes more and more annoying, so that as time goes on the neurotic may develop feelings of insufficiency, incompleteness, unreality, strangeness, incapacity, insecurity, helplessness or inferiority, and on this groundwork there may be built up marked self-consciousness, indecision, interrogations, doubts, scruples, obsessions, fears, depression. 8. Because of this, and because of the fundamental oversensitiveness and tendency to over-reaction, difficulty of adjustment or adaptation to life results and revolves about one or more aspects of life: (a) physical health (visceral or skeletal); (b) nervous or mental condition; (c) moral-ethical-

religious conflicts; (d) social or human contacts or relationships; (e) personal-domestic family problems; (f) politico-economic issues; and (g) special wishes, desires or ideals may be the nucleus of the conflict, with a struggle between the needs, ambitions or goals, and the possibilities, handicaps or reality. 9. Fears and convictions of pathological type, especially concerning the physical or mental health, are common.

#### THE NEUROTIC'S STRUGGLE FOR POISE AND EQUILIBRIUM

1. The neurotic struggles to flee from the possibility of disturbed or disequibrated states of the sort above mentioned, endeavors to hide his weaknesses, defects, handicaps, fears or strange feelings from others, and battles for bodily and mental poise, harmony, balance, stability, equanimity or equilibrium, call it what you will.

2. He employs various ways and means, frequently bizarre, and in his efforts he often goes to extremes or excesses because of over-reaction and wild, frantic, panicky, undirected struggles to gain his ends, with certainty and as quickly as possible.

3. Adjustment goes to extremes in the direction of flight or fight. Flight may lead to (a) so-called hysteria, with blind, unplanned simulation of visceral or skeletal disease; (b) exaggeration of or deception concerning the actual condition or situation; (c) such behavior reactions as excessive timidity, shyness, inaccessibility, fears, taboos, miserliness, self-isolation, self-pity, cringing, self-abnegation, depreciation and accusation, passivity or non-resistance, asceticism, depression, even to self-effacement (suicide). Fight may result in (a) depreciation of others, with hate, anger, jealousy, spite, bitterness, and the rest, with fault-finding, blaming and accusing others; (b) expansion of self—overproud, over-bold, bully type, boastfulness, etc.; (c) over-altruistic; and (d) psychoses of more pronounced degree, especially paranoid trends (ideas of grandeur or self-esteem with delusions of persecution).

4. Marked egotism may follow, with morbid introspection, self-observation, self-absorption and self-analysis.

5. The struggle to avoid possible or actual annoying states and gain, preferably in one bound

and for all time, satisfying states, with poise and equanimity as the end, results in the adoption of one or more of the following definite means: (A) pharmacologic—habit or non-habit-forming drugs, including alcohol and morphin; (B) physiological—relaxation schemes, rest, diet, hydrotherapy, physical training, electrotherapy, massage, osteopathy and the like; (C) psychological—(a) medical, such as explanation, persuasion, re-education, hypnosis, analysis; (b) non-medical, as seen in the so-called health and faith cures (Christian Science, New Thought, etc.); (c) general philosophic viewpoints—religious especially; (d) false or extreme goals or ambitions—vague searching for an indefinable acme of serenity, certainty, security, perfection, health, wealth, happiness, freedom, power, equality, normality, pre-eminence, superiority, omniscience, or omnipotence; (e) peculiar habits to control the tendency to hurry and avoid annoying feelings, such as walking or talking too slowly; (f) excessive cravings or tendencies to action—such as abnormal desire for change and variety, vague and constant cravings for sensation and excitement, mysticism, cultism, and the like.

#### THE ROLE OF MENTAL CONFLICTS

The neurotic or irritable individual is more apt to have excessive and prolonged disturbing mental conflicts, which are then the result and not the cause of the neurotic condition. But mental conflicts may of themselves produce nervous upset or aggravate the neurotic makeup or traits, a vicious circle resulting.

Proof of the truth of the above conception of the neurotic constitution is found in the daily behavior of our nervous patients and in their own descriptions of their feelings, impulses and behavior. It is seen typically and beautifully in the life and works of the great philosopher, Herbert Spencer. Spencer, as he himself shows in his Autobiography, was a profound congenital neurotic. In his "First Principles," which contains the basis of his synthetic philosophy, he stresses equilibration or integration as the main tendency of evolution. Herbert Spencer's views apply to the universe, including human beings, and just as much to the neurotic, who is but an exaggeration, inflation, magnification, or caricature of the average or normal.

## THE REVIVAL OF ARTIFICIAL PNEUMOTHORAX

EUGENE F. TRAUT, M. D.

OAK PARK, ILL.

After a brief period following Murphy's work in 1898, the therapeutic production of artificial pneumothorax fell into the discard. The recent American and foreign literature, however, indicates that it again is being rather extensively employed.

It is not easy to classify the indications for this procedure as absolute and relative, because authorities differ and each case is a law unto itself. Most of its advocates agree that it should be used for an indication that is primarily unilateral. That is to say, one should put at rest the bleeding lung, the actively infected lung and the lung with the large toxic cavities.

If one can determine the bleeding side in the presence of considerable hemorrhage, pneumothorax should be induced. The bleeding lung is thus put at rest and clotting is favored. With bleeding of small amount, however, as in the usual hemoptysis Hansen<sup>1</sup> advises waiting until all blood has disappeared from the sputum.

Almost all the men who use pneumothorax unite with Harms<sup>2</sup> in saying that cases of early unilateral tuberculosis should be "gassed," but he goes farther and says that early bilateral cases with most of the changes in one lung and bilateral cases in which only one lung has an active process should also receive the treatment. In some of the European centers pleural effusions are being aspirated and pneumothorax follows. Pneumothorax is also being used abroad to keep ambulant cases at work and to make invalidated cases ambulant.<sup>3</sup>

That the procedure is still far from being standardized is indicated by the varied conditions which the different authorities consider essential. Most are agreed that rapidly progressive cases are not good subjects. A pleura obliterated by adhesions prevents the desired collapse, and if only a partial pneumothorax is secured, localized atelectasis results and is followed by abscess.

1. Hansen Allgemeine Betrachtungen über ambulante Behandlung Tuberkulöser mit künstlichem Pneumothorax. Med. Klinik, Dec. 2, 1920.

2. Harms: Statistik der künstlichen Pneumothoraxtherapie für die Jahre 1912-1919. Beiträge zur Klinik der Tuberculose. 1920.

3. Dorn: Pneumothoraxtherapie und Landesversicherungsanstalt. Beiträge zur Klinik der Tuberculose. 1920.



Hansen is the only one who mentions mild hemoptysis as a contraindication.

Pneumothorax profoundly alters the respiratory-circulatory physiology. When one introduces a gas into the thorax he is not affecting one part of the chest to the exclusion of the rest. The mediastinum in man is not rigid and thus the gas introduced affects not only the punctured side but the closed side as well. This explains why we cannot safely produce an open pneumothorax except where the pleura is thick and rigid or bound down by adhesions.

Artificial pneumothorax causes a decrease in aerating surface by producing atelectasis in one lung. The change in intrapleural pressure not only narrows the small vessels in the lung but also compresses and kinks the great vessels in the mediastinum. There is a loss of whatever suction-effect the expansion of the chest has on the venous blood. However, the "gassed" lung is usually not entirely atelectatic. In the first place there are usually a few adhesions preventing collapse. These are usually apical, the very region in which collapse is most desired. Secondly, even where atmospheric pressure has been obtained there is usually enough difference between the pressure at the height of inspiration and that at the completion of expiration to cause the affected lung to inflate somewhat. The ensuing circulatory difficulties are not entirely clear, but we know that it is the difference normally existing between the pressure in the pleural space and that in the bronchi which distends the alveoli. If the alveoli are not distended or are even compressed by a positive pleural pressure, then it requires more force to maintain the capillary circulation. Just how much effect the deflection of the mediastinum has upon the emptying of the superior cava or how much the depressed diaphragm hinders the emptying of the great abdominal veins is still unknown. These hindrances, however, are not so great that slightly greater cardiac effort will not overcome them. A hypertrophied heart is a frequent finding in cases of long-standing pneumothorax.

Immediately after the induction of a pneumothorax the blood in the left ventricle shows a marked increase of carbon dioxide and a lowered oxygen tension. The excess of carbon dioxide is quickly reduced by raising the respiratory rate but the oxygen again approaches the normal only

after the collapsed lung has undergone fibrosis so that it no longer receives any considerable quantity of blood.

The fact that the normal pleura absorbs 50 cc. of the injected air per day<sup>4</sup> governs the dosage. Enough must be injected to eventually secure and maintain collapse, but it must not be injected so rapidly that it will not allow the patient to accommodate himself to the altered physiology described.

Physical examination is indispensable in determining suitable subjects but the greatest reliance is put upon the fluoroscope. This instrument shows us the presence and extent of adhesions, the pulmonary lesions, and throws light upon the thickness of the pleura. Many introduce the needle under the screen so as to avoid the pleural adhesions. These adherent areas are especially to be avoided because they predispose to puncture of the lung and this often results in pyothorax.

Hemorrhage and embolism are among the other feared complications. Many of the fatalities formerly ascribed to "pleural shock" are now attributed to embolism.

The recent results with this form of therapy deserve careful consideration. Kahn<sup>5</sup> markedly improved ten of twenty consumptives and secured symptomatic improvement in several hopeless cases. Hansen had universally good results, and Harms<sup>2</sup> who gives the statistics of a large clinic for seven years, demonstrates its value in relieving symptoms and aiding recovery. Dorn<sup>3</sup> who did his work with ambulant patients, has had very satisfactory results in keeping his patients at their vocation by means of pneumothorax.

The revival which we are witnessing is attributable to the use of the fluoroscope and a more careful selection of suitable cases.

104 N. Oak Park Avenue.

4. Gammons: Important considerations in the Administration of Artificial Pneumothorax. J. A. M. A. Jan. 21, 1921.

5. Kahn: Use of Artificial Pneumothorax in the Treatment of Pulmonary Tuberculosis. Texas State Journal of Medicine, Dec., 1920.

#### DEFECT IN MEDICAL EDUCATION

Dr. Bayard Holmes says: There is no medical school in which doctors are educated—in some schools they make inspectors, in others they make laboratory experts and in others good bookkeepers.

# ILLINOIS MEDICAL JOURNAL

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DECEMBER, 1922

## Editorial

### EVERY DOCTOR SHOULD HELP IN THE CAMPAIGN OF PUBLICITY

As we go to press a letter from the officers of the State Society is being sent out to every physician in Illinois soliciting funds for the purpose of carrying on a lay publicity campaign through the newspapers of the State.

This campaign is being pushed in compliance with a resolution of the House of Delegates of the Illinois State Medical Society passed at the 1922 meeting. Every physician and surgeon in Illinois is asked to co-operate and is needed in the campaign. The campaign cannot be prosecuted without funds. It must be supported by popular subscription, for the reason that the treasury of the State Society is without the needed money. It is hoped that every doctor will subscribe to this worthy cause.

Pitiless publicity is the cult killing corrosive!

Practical ethical publicity is the redemption of the profession. Medicine has sat silently for too long.

For the sake of humanity, let this campaign flourish.

### HOSPITAL STAFF HELPS FINANCE THE JOURNAL

The following resolution passed by the staff of St. Joseph's Hospital of Bloomington, Ill., can be profitably imitated by other hospitals.

WHEREAS, The ILLINOIS STATE MEDICAL JOURNAL is the official organ of the profession of Illinois and its existence is necessary to the welfare of the profession of Illinois, and

WHEREAS, It is representing the medical profession not only of Illinois, but of other States in a worthy, competent and meritorious manner,

*Therefore, be it Resolved*, That we, the members of the St. Joseph Hospital Staff Organization agree to buy such supplies as we use from advertisers in the ILLINOIS MEDICAL JOURNAL and that we further agree to specify on our prescription blanks, drugs and supplies prepared by advertisers in the ILLINOIS MEDICAL JOURNAL when possible so to do. That we will use our best endeavors to induce hospitals to buy their supplies and equipment from the same source.

The above resolution was passed by the St. Joseph Hospital Staff Organization, Bloomington, Ill., on Monday evening, October 2, 1922.

ALVIN KELLER,  
*Secretary*.

## THE A. M. A. BECOMES AN AUTOCRACY

ONE MAN DOMINATES THE ORGANIZATION, WHILE THE HOUSE OF DELEGATES PRESERVES ONLY PERFUNCTORY POWERS AND THE RANK AND FILE HAVE NOTHING TO SAY IN THE MATTER.

THE JOURNAL, WHICH IS THE PROPERTY OF THE ASSOCIATION, ABSOLUTELY CONTROLS THE ASSOCIATION TO WHICH IT BELONGS.

1. The A. M. A. is today a one-man organization.

2. The House of Delegates of the A. M. A. stands today divested of power, except the perfunctory privilege of electing a Board of Trustees.

3. The entire medical profession of the United States, in so far as its organization is concerned, is today at the mercy of one man and a Board of Trustees that is subservient to him.

4. The powers vested formerly in the House of Delegates have been insidiously arrogated by the Board of Trustees through shrewd parliamentarianism.

5. The Journal of the A. M. A. is the property of the Association. The Association owns the Journal. The Journal does not own the A. M. A.—Yet—

6. The Journal of the A. M. A. controls all the funds and all the property of the Association as well as the funds that belong to the Journal of the A. M. A. The tail wags the dog.

7. The Treasurer of the A. M. A. is merely a figurehead. The Journal management uses the Association funds as it pleases, for business needs, and turns only the surplus over to the Treasurer, thereby vitiating the constitutional purpose in the creation of a Treasurer.

8. The Journal management dictates the ways in which the Association's money shall be spent.

9. The editor of the Journal of the A. M. A. is assuming the functions of "General Manager" of the American Medical Association, and, ex-officio, of every physician in the United States, although such despotic authority was never conferred upon the editor of the Journal, either by the House of Delegates or by the physicians themselves.

10. When the reorganization plan was

adopted it provided for the first time for a House of Delegates and stated specifically that this should be the legislative and fiscal body of the Association, and that the funds of the Association should be appropriated by the House of Delegates. Today the Editor of the Journal of the A. M. A. and his board of Trustees have nullified the House of Delegates and have assumed the right to make appropriations for the entire Association.

11. The Secretary of the Association is merely a marionette in the hands of the Board of Trustees, and the editor of the Journal. (See p. 48 Off. min. 1910 session.) The Secretary has been deprived of any possible initiative by an amendment to the By-laws.

12. The editor of the Journal has assumed, entirely without warrant, that he is the "general manager of the Association," and not of the Journal only.

13. The Board of Trustees has assumed that it has the authority to appoint and control all officers of the Association as well as those of the Journal.

14. The Board of Trustees tries to camouflage the House of Delegates into believing that the Treasurer is elected by that body, whereas the House of Delegates is without choice in the matter. (Sec. 1, Chap. 4 of the By-laws says, "The Treasurer shall be nominated by the Board of Trustees.") Under no circumstances has the House of Delegates a chance to do a thing.

15. The House of Delegates is without voice in the appointment of committees. (Sec. 1, Chap. 5 of the By-laws states, "That the President shall nominate the standing committees.") The House of Delegates must confirm the nominations. Here again there is no choice, and so on, ad infinitum ad libitum.

16. The Board of Trustees began existence as a committee of supervision of the publication of the Journal. Today the Board of Trustees exercises the right to act upon and control all of the activities of the organization.

17. The President of the A. M. A. has been degraded into a mere automaton where control of the organization is concerned, with even this puerile power of "recommendation" for appointment further weakened by the power of veto,



assumed by the Board of Trustees, as evidenced by Sec. 1, Chap. 5 of the By-laws.

Incredible but true! And the worst of it all is, that of the medical profession affected so direly by this drastic situation, few of the members know what is the real condition of affairs, as it has been brought about with such rare adroitness.

In direct elucidation of the statements made here let it be understood plainly that:

The policy of the present management of the A. M. A. has been and is the accumulation of money for the erection of buildings and to make a big showing for the Journal. This feature has been worked overtime while the economic welfare of the individual physician and the profession at large have received minimum, if any, attention. Here is where the A. M. A. falls down with a vengeance. Instead of serving the individual doctors of the Association as a great labor organization stands up for its members, the A. M. A. does nothing to help physicians maintain their economic positions in society.

Since the reorganization it is apparent that the management of the A. M. A. prefers to take its advice from men out of touch with the daily needs of the profession. The struggling doctor is left to fight his own way unaided.

Since the House of Delegates of the A. M. A. is without voice in the election of the personnel of standing committees, there results a pitiable defect, that places the profession in bondage. Recall to mind how committees of the A. M. A., created supposedly to help formulate policies intended to safeguard the interests of the whole profession, have possessed a personnel largely made up of non-practicing physicians; or of men who had never practiced medicine; or of theorists; or of men who admit that they were failures in the practice of medicine; or of statemedicine advocates; or of health-center, Sheppard-Towner Maternity propagandists; or of Compulsory Health Insurance, hospital-at-every-crossroads (under University control and operation) advocates; or of state, county or city built and operated hospitals—which means politically controlled, in every township, disciples; or of men who preach that-your-child-belongs-to-the-state, propagandists, and so on ad nauseam.

The A. M. A. per se is hamstrung. Instead of being developed as a protective influence for

the economic advancement and social welfare of the rank and file of the profession, the A. M. A. is made to perform these services chiefly for the Journal.

As the Secretary of the Association is a mere figurehead controlled by the Editor and the Board of Trustees, there is no one at the headquarters of the A. M. A. to represent the members or to promote organization. The result is that for twelve years there has been no advance in *organization*, nor will there BE any such progress until the Secretary is freed from all control by the Editor and the Board of Trustees, is made responsible to the House of Delegates, alone, and is made financially independent by being paid a salary fixed by the House of Delegates and at least equal to that of the Editor.

Few of the members of the A. M. A. realize the centralizing changes that have taken place in their organization within the last 22 years. So adroitly and insidiously have these changes been brought about that the majority of members, even those best informed regarding the organization, have been so dazzled by the material prosperity of the A. M. A. that they have entirely overlooked the fact that, during this period of expansion, the Association has been converted from a democratic and self-governed body of professional men into a highly centralized machine with absolute control concentrated in a single individual. The majority of the attacks which have been made on the management of the association during this time, have been directed entirely at the editor of the Journal. These attacks have been futile and have been welcomed by the management for the reason that these criticisms have diverted attention from the gradual but steady absorption of all the authority and control of the organization. The methods by which this process has been carried on can best be appreciated by tracing, as we have done, the successive steps, through amendments to the Constitution and By-laws as these amendments have been made through the intervening years.

In 1898, the A. M. A. was an entirely different organization from what it is today. Dr. John M. Hamilton, then editor of the Journal, devoted a few hours each week to general supervision. Permanent Secretary Dr. Atkinson of Philadelphia, was supposed to keep the minutes and carry on the official correspondence. The only

business or financial interests that the Association had, were those belonging to the Journal. These were managed by a Board of Trustees, created in 1882 at the time the Journal was established, *solely for the purpose of superintending the publication of the Journal*. In fact, for the first 20 years of its existence, the Board of Trustees was known as the "Board of Trustees of the Journal of the A. M. A.", and its duties were limited entirely to supervising the publication of the Journal.

Dr. Hamilton's sudden death in 1898, together with the dissatisfaction that had existed for a long time, with Dr. Atkinson, as Secretary, led to the determination of the Board of Trustees to elect a whole-time editor who would devote himself to *developing the Journal*. In February of 1899, Dr. Simmons was elected editor of the Journal. At the annual meeting in June, it was suggested the editor of the Journal also act as Secretary of the Association. This suggestion was adopted and Dr. Simmons occupied the two offices, from that time until 1911.

By 1901 the Journal had developed to a point where reorganization seemed necessary. It is significant that the financial statement for this year was headed "*Report of the Trustees of the Journal of the A. M. A.*" The year previous, 1900, a committee on reorganization had been appointed, which submitted its report at the St. Paul meeting. This reorganization plan for the first time provided for the delegate body to be known as the House of Delegates. It provided for the following officers: President, four Vice-Presidents, a Secretary, a Treasurer, and nine Trustees. It stated specifically, that the House of Delegates should be the legislative and fiscal body of the Association and that the funds of the Association should be appropriated by the House of Delegates. At present, the editor of the Journal and the Board of Trustees attend not only to appropriating the funds but also to most of the other functions of the House of Delegates.

The reorganization committee's report also provided that the Editor of the Journal should be the Secretary of the Association, and that the Board of Trustees should have authority, "to appoint an editor and such assistants as it deemed necessary." The only authority given the Board of Trustees was "To provide and

superintend the publication and distribution of such proceedings, and transactions and memoirs of the Association as may be ordered (by the House of Delegates) in such manner as may be directed." The new By-laws further provided that, "All matters of the Association pertaining to the expenditure of other monies (that is, money for other purposes than the publication of the Journal), shall be referred to the Board of Trustees, who shall make a report of the same within twenty-four hours, and if the House of Delegates orders the expenditure of money, the payments shall be made by the Treasurer." *It will be seen from the above that the reorganization plan specifically gave the power of appropriating money to the House of Delegates; that the functions of the Board of Trustees were purely advisory and that the action of the House of Delegates in appropriating money was final.* Any claims, therefore, that the present method of controlling the finances of the A. M. A. were approved by the Association at the time of the reorganization in 1901, are entirely without foundation, as shown by the official records.

At that time, the only source of revenue of the Association was the Journal and the only purpose for which money was expended, with the exception of some slight Association expenses, were the expenses of publishing the Journal. It was, therefore, perfectly natural that all bills should be approved by the editor and all checks signed by him. It was perfectly natural, that as the only responsibility of the Board of Trustees was the publication of the Journal, the voting of appropriations should be left in their hands. It was early recognized by those desirous of concentrating the powers and resources of the Association that whoever controlled the finances of the Association would ultimately control the Association itself, since no action could be taken, no committee could function, no officers could carry on any activity, except as the necessary expenses for such purposes were authorized.

In the twenty-two years of expansion of the Association and the Journal, the *anomalous condition has developed whereby the Journal which is the property of the Association, now absolutely controls the Association to which it belongs. The editor of the Journal has developed into an absolute dictator of the Association and its affairs through his control of the finances of*

the Association, while the Board of Trustees of the Journal has been converted into a Board of Directors of the Association which now assumes to control all the activities of the Association, and even to dictate to the officers, Boards and Committees of the Association, as to what they can do, and how they can spend the money, which is the property of the Association. And in all this time, the question as to whether the members of the Association or their duly elected delegates were in favor of such a fundamental change in the organization and policies of the Association, has never once been squarely submitted to vote.

*This conversion of the Association from a democracy to an absolute autocracy has been brought about so slowly and shrewdly, so surely and so persistently that even the members of the House of Delegates themselves, have not been aware of this overthrow of self-government and the substitution of an oligarchy for a rule of the people.*

*These changes have resulted in converting the Board of Trustees from a supervising committee of the publication of the Journal into a Board of Directors of the Association which now claims the right to act on and control all the activities of the Association. Another instance of the tail wagging the dog.*

The individual members are today in the same position as stockholders in a corporation. They can vote for Directors but they have nothing to say about the policy or management. The editor of the Journal has developed into a general manager of the Association with absolute control over all the other officers of the organization, who have been subordinated gradually to him. *In his hands has been placed control of all of the funds of the Journal of which he is editor; also of all of the earnings of the Journal; and of all of the funds of the association itself and of all of the surplus funds of the association and of all other property that it may have.*

The Board of Trustees was formed originally as a publication committee for the Journal. For instance, in the official minutes of the Forty-third Annual meeting, held at Detroit, in 1892, over ten years after the establishment of the Journal, a resolution adopted by the Association refers to the "Trustees of the Journal of the American Medical Association," and gives the

Trustees very sharp instructions regarding the kinds of advertising they can accept. The report of the Board for the same year is headed "The Report of the Trustees of the Journal of the Association." In this report occurs the following statement, *which might well be considered by the present Board, "The Association owns the Journal, and not the Journal the Association."* In 1900, the year after the election of the present editor, the question of reorganization of the Association was brought up, and a committee appointed to draft the new constitution and by-laws. This committee reported at the St. Paul meeting in 1901, a meeting which has since been famous in the history of the Association as a reorganization meeting. This report reorganized completely the Association on a plan which is still being followed in the main. The committee on reorganization, that made the report, consisted of three men, Dr. J. M. McCormack of Kentucky, Dr. P. Maxwell Foshay of Chicago, and the Editor of the Journal. Dr. Foshay was recognized as a stop-gap member who was put on merely to complete the committee; the real work of drafting the constitution and by-laws was done by Dr. McCormack and the Editor of the Journal. It is significant that Dr. McCormack was interested in building up the organization as a source of benefit to the profession. Results would tend to engender the general belief that Dr. Simmons on the other hand was out to make the Journal dwarf the society it serves; that he feared the A. M. A. as an Association, and wanted himself and the Journal to overshadow the organization, and to have the organization subservient. Antagonism between the interests of the Journal on the one hand and the Association on the other began at this point, and continued until 1913 when Dr. McCormack, who had always stood for the ideal of upbuilding the A. M. A. into a tower of strength and protection for the individual members of the profession as well as for the traditional tenets and the interests of the organization, was forced out of official connection with the Association.

The new constitution provided for a House of Delegates of 150 members, made up of representatives from the State Associations, for a definite relationship between the County, the State and the National Organizations, and for the exclusive control of membership by the



County societies. These are the three objects which have been repeatedly set forth as the purpose of reorganization.

There is in the Constitution and By-laws of 1901 no mention of a "General Manager." The editor of the Journal is referred to throughout by his proper title. The Board of Trustees is given authority only, "to provide and superintend the publication and distribution of all such proceedings, transactions and memoirs, of the Association as may be ordered, to be published, in such manner as may be directed." It is also authorized to appoint an editor and such assistants as it deems necessary for the publication of the Journal. *The House of Delegates is specifically recognized, not only as the legislative, but also as the fiscal body of the Association.* The President is made the presiding officer of the General sessions of the House of Delegates and given the right to vote in case of a tie, as well as the power of appointing all committees.

No further changes of any importance were undertaken until 1904, when a revised constitution and by-laws, drafted by the same committee, was reported and referred to the Committee on Constitution and By-laws and adopted (Journal A. M. A., June 11, 1904, page 1581).

The next session of interest is that of 1907 at Atlantic City at which a concentrated attack was made on the administration. In the debate on the adoption of the report of the Board of Trustees, was used for the first time the title "General Manager" in referring to the editor of the Journal. At the same meeting, an effort was made to seat a Trustee as a voting member of the House of Delegates, whereupon the Reference Committee on Amendments to the Constitution and By-laws reported an amendment specifically making the members of the Board of Trustees ineligible to sit in the House of Delegates—one of the few instances in which the machine failed to slip something over which was apparently unimportant but really dangerous.

In 1910 the constitution and by-laws were again subjected to a general revision; evidently it was considered easier to secure the adoption of a large number of changes than of a single amendment. In the new draft, the duties of the President were restricted to those of presiding officer. The section regarding the secretary contained this significant addition to the enumeration of his duties: "He shall perform such other

duties as may be directed by the House of Delegates or the Board of Trustees." *This was the first step in making the Secretary of the Association subordinate to the Board* (Page 48, Official Min., 1910 session). The significance of this is readily seen when it is remembered that at the next session (1911) the editor submitted his resignation as Secretary and Dr. A. R. Craig was elected to fill the vacancy. Before allowing this important post to pass, even into the most compliant hands, it was considered necessary to modify the by-laws so as to deprive the Secretary of any possible initiative. The fact that the chairman of the Reference Committee which made this report in 1910 was elected Secretary of the Association in 1911 was hardly accidental. The report provided also that the Board of Trustees should have charge of all property and financial affairs of the association; it should "appoint a General Manager and an Editor of the Journal with such assistants as may be necessary, and shall determine their salaries and the terms and conditions of their employment." The language used could only mean that the person or persons appointed were to be a General Manager of the Journal only and an Editor of the Journal; and that the Assistants which the Board of Trustees were to control, were to be assistants on the staff of the Journal. In spite of this plain and obvious interpretation, the Board has assumed throughout that it had the authority to control all officers of the association, as well as those of the Journal, and the General Manager of the Journal has assumed, entirely without warrant, that he is the General Manager of the Association as well as of the Journal. *There is no warrant for such an assumption, even in the By-laws as they stand today.* Had it been the intention of the House of Delegates to create a General Manager of all of the affairs of the Association, the by-laws would have read, "they (the Board of Trustees) shall appoint a General Manager of the Association, and an Editor of the Journal."

The records show no such action and it is beyond reason to suppose that the House of Delegates intended to authorize the Board of Trustees that it had created to appoint an autocrat who should have control of all of the affairs of the Association. For, if this were true, it would be making the creature of the creature greater than the creator.

The next year, 1911, at Los Angeles, another

joker appeared. The year before the Secretary of the Association had been put under the control of the Board of Trustees. At Los Angeles, this section was amended to read, "He (The Secretary) shall perform such other duties as may be directed by the House of Delegates, the Board of Trustees, or the General Manager." *The object of such amendment is obvious.* Its effect was to make the *Secretary*, who is presumably an *executive officer of the Association*, subordinate to and under the orders of the *Editor of the Journal*, who is not the General Manager by any authorization of the House of Delegates. This amendment was adopted by the House (page 40 Off. min. 1911, Los Angeles Session).

Having made the editor of the Journal (elected by the Board of Trustees) General Manager of the Association, and having made the Secretary (elected by the House of Delegates) an office boy for the editor of the Journal, it remained only to make the Board of Trustees a Board of Directors of the entire Association, with the complete control of all of the Association's activities. As a step in this direction, the President was deprived of practically all of his authority, by providing for a Speaker of the House who appoints all reference committees and controls the actions of the House of Delegates, leaving to the President no duties except to preside at the single general meeting and to recommend certain persons for appointment on standing committees. Even then the Board of Trustees can exercise the power of veto.

In 1920 it was found that the constitution and by-laws again needed extensive revision. Revising the constitution appears to have become a habit. So drafting of the new constitution and by-laws was naturally entrusted to the Judicial Council. Their report was presented at the 1920 session and was referred to a reference committee which reported that it found that "no radical changes had been made" but that "the constitution and by-laws had merely been brought up-to-date." They had been! We'll tell the world! The provision regarding the Board of Trustees now reads, "The Board of Trustees shall have charge of the property, and financial affairs of the Association and shall perform such duties as are prescribed by law governing directors of corporations." (Off. min. 1920 ses.; page 31). The reference committee said that the

constitution and by-laws had been "simplified." Simplified is right! By this simplification, the medical profession has been dehorned and government by the members has become a mirage.

Ponder over this epitome of the back fire of the so-called "simplification" that has resulted in unauthorized, illegal autocracy and usurpation of constitutional rights of the rank and file of the profession. The results include the board of trustees, originally a publishing committee, for the Journal, now transmuted into a board of directors assuming all the authority that corporation laws give to such a body; the editor of the Journal assuming duties of a general manager of the A. M. A., with absolute control over all the activities and finances of the organization: the secretary, originally the executive officer of the organization, demoted into a minor official, compelled to take his orders from the board of trustees and the editor of the Journal, his salary fixed by the board of trustees, which, of course, means that the secretary is subject to the will of the editor, while all the other officers, employees and committees of the organization are under the complete control of the Board of Trustees, which, without exception, adopts the recommendations of the editor.

What has come about, then, since 1901, is that the County Medical Societies have delegated their authority to the State House of Delegates; the State Association, through its State House of Delegates, has delegated all its authority to the house of delegates of the A. M. A.; the house of delegates of the A. M. A. has delegated all its authority to the board of trustees, which is now the board of directors, and the Board of Directors practically has delegated its authority to the Editor of the Journal, who as an unauthorized and self-constituted general manager of the Association controls all of the activities, finances and functions of the organized medical profession. A pyramid, with one man sitting on the top.

An autocracy in medicine is as undesirable as an autocracy in the national government. Without a doubt, the members of the A. M. A., have a right, if they so desire and if the question is presented to them, so that they can vote on it intelligently, to delegate complete control of their professional activities to one man. But such action never has been taken consciously nor

*would it ever have been allowed to be effected had the real purpose of the various and apparently insignificant amendments to the by-laws been understood. But so gradually, imperceptibly and craftily has this change taken place, that few members even of the House of Delegates realize that no matter what may be the recommendations of any of the councils or committees; no matter what may be the decisions of the House of Delegates, no matter what may be the actions or the appropriations of the Board of Trustees itself; no committee, Board or Officers of the A. M. A. today can spend five cents of the Association's money without the approval and consent of the Editor of the Journal. For it was recognized long ago that whoever controls the finances of the Association, will control the Association. So we have, today, the anomalous and absurd situation that the Journal, which is the property of the Association, not only spends what money is necessary for its own expenses, but that the surplus earned by the Journal each year, which does not belong to the Journal itself, but to the Association, as well as all of the funds of the Association itself, are controlled by the Journal; so that this money can not be used for any purpose whatever unless it is in line with the policies and plans of the editor. No matter what individuals may be selected to fill any vacancies that may occur, or who may be elected president of the Association, or members of the Board of Trustees, this situation will continue so long as the Board of Trustees dictates and controls the action of the Association; so long as the Editor has complete control of the finances of the Association, and so long as the Secretary, elected by the House of Delegates as the Executive officer of the Association, is compelled to take orders from the Board of Trustees, and the Editor and is financially dependent on them.*

Measured from a penny-wise standpoint, that the Association has prospered is conceded, but what relation does this temporary financial success bear towards medical ideals, and the betterment of professional conditions?

In the latter respect, failure is complete. That the A. M. A. has done little or nothing for the rank and file of the profession is murmured everywhere and not without justification. Instances galore could be cited, but what greater accusing finger can be pointed than the absolute

apathy of the officials of the A. M. A. towards the Sheppard-Towner Maternity Bill and analogous economic questions?

The A. M. A. is not a business enterprise. Its success is not to be gauged in dollar bills or buildings, but in what it does to benefit its members and to retain the confidence and merit the support of physicians. In other words, "What does it profit a man if he gain the whole world and lose his own soul?" What does it profit the A. M. A. to accumulate land, bonds and mortgages with which to erect a whited sepulchre for the genuine interests of the profession it was organized to safeguard?

#### THERE MAY BE A REACTION

In the zealotness of the faddists to put over health menacing legislation, they may accomplish something that was not intended, something that will prove of immense benefit to American citizenship. They may succeed in awakening an apathetic public to the necessity of that eternal vigilance which is the price of liberty. The encroachment of privilege on individual rights has made alarming headway of late years, and it may need only the shock of such mal-administration of government to arouse the people to what will surely happen if such encroachment is not ended, and a return made at once to the fundamental principles of the great American democracy.

BAYARD HOLMES.

#### DOCTORS WANTED

*Wanted for the Illinois State Hospital Medical Service:* Physicians (men preferred) under forty years of age, graduates of class A schools. Salary \$150.00 per month with maintenance for self and family. The work is that of caring for the insane in the various state hospitals. Address Dr. Charles F. Read, State Alienist, Dunning Station, Chicago, Illinois.

#### NOTICE

McDonough & Company, 416 So. Dearborn street, Chicago, publishers of the Illinois Medical Blue Book, are now forwarding letters enclosing data blanks to all physicians and surgeons in the state, requesting their data for the 1923 edition which will be published at an early date.

The publishers have set a high standard for themselves in regard to the information fur-



nished. They are making every effort to render the Third Annual Edition (1923) of the state Blue Book of even greater use as a book of reference, a directory to which both the medical profession and the general public can look for absolutely reliable data.

It is no small matter to compile a directory of this nature, and its editors earnestly request that each and every doctor who receives the blank will fill it out and return it at once. The immediate return of this data will greatly facilitate the early issuance of the Blue Book.

### NOTICE

A cordial invitation is extended to the members of the Eye, Ear, Nose and Throat section of the Illinois State Medical Society to present papers at the next meeting, which will be held at Decatur, Illinois, May 15, 16, 17, 1923.

All members desiring to appear on the program are requested to send the title of their paper to the Secretary, Dr. Wm. L. Noble, Room 1010, Columbus Memorial Bldg., 31 N. State St., Chicago, Ill., as promptly as possible.

### IS MEDICINE TO BE A NEW AUTOCRACY?

Much has appeared recently in the lay press pertaining to the practice of medicine. Two articles by R. de St. Denis in *America* have recently appeared and because of the wide circulation of this journal, it will be read by thousands and thousands of people. In the first article, the author described the widespread movement towards prolonged medical training and the reasons alleged in its favor. In the second installment which appeared October 28, he pointed out the dangers to the public and the profession in the creation of a medical autocracy, should this movement be unduly promoted.

The following is the article:

#### MEDICINE, A NEW AUTOCRACY?

In the preceding article I described the wide-spread movement towards prolonged medical training and the reasons alleged in its favor. In the present I shall point out the danger to the public and the profession in the creation of a medical autocracy should this movement be unduly promoted.

It is a question if a fourth year, or even a third year of obligatory premedical training is justifiable. Of course, it is desirable that only the finest type of men, men of wide sympathies, of high ethical ideals, enter the profession, and selection should therefore be

severe. Yet even the present training of six or seven years offers certain objections that would be emphasized if the period were extended still further. Briefly, these objections are as follows:

1. The long training period tends to establish a money aristocracy. Only the student with considerable means or considerable earning capacity can hope to furnish the funds required. The moneyed student is thus favored, while the student lacking the funds, or the opportunity to earn them, is very seriously handicapped. The longer the training period, the greater this handicap. Parenthetically, the moneyed student usually evinces the very human tendency of "showing off" his money, making the poorer student envious, and perhaps making him believe that the primal aim of the medical profession is the accumulation of money, and not the alleviation of pain and the healing of wounds.

2. The long program stresses purely the intellectual attainments and ignores the moral and ethical phases. Yet it is known that a man may be mentally an intellectual giant, but morally a blackguard; mentally an encyclopedia of facts, yet an utter failure in the practice of his profession. It is desirable that more attention be given to the character of the student. The present criterion of ethical standards reads "high grade."

3. The training period is unduly prolonged, and the mortality terrific. The percentage of "flunked" or merely "dropped" students in the first and second medical year is large, but smaller for the third and fourth years. Yet even in a "six year curriculum" it means that the dropped student has the equivalent of an average university education behind him. Unfortunately, this education is not of a sufficiently generalized type to permit him to enter some other profession, say law, teaching, engineering, etc. On the contrary, even the premedical work is distinctly of a specialized nature, the course having been selected purely with the idea of fitting the student to take up the advanced phases in the medical school proper. The premedical courses are prescribed as so many credits of chemistry, so many of zoology, physics, English, languages, etc. In view of this the student is required to specialize from the very beginning. If he is dropped in the third or fourth year of his work, the result is calamitous. Such a student must practically begin where the ordinary freshman begins.

4. Even for the survivors the trials are not ended. Suppose the training is at least completed, and the young physician opens up an office. He enters his practice at an age when most men have been established for some years. And before him he has several difficult and expensive years till he knows if he will succeed or fail.

5. To repay the investment in time and money, fees must be raised to an extent where only the wealthy can afford medical advice. The physician has every right to realize on his investment; but if he must raise his fees because his investment was so very large, the purpose of the profession is lost. Right now, in country places, the fees for "out of town" calls are exceed-

ingly high; country people therefore call the physician only in *extremis*, too frequently when the case is well advanced, or perhaps entirely too late. In such circumstances the development of the most promising field of medicine, namely preventive medicine, is hindered.

6. In his practice the moneyed physician feels little incentive to exert himself in the service of his fellow-man. On the contrary, the man with humble beginnings brings to his work "the urge to make good;" by virtue of his simple early association he brings with him a more sympathetic understanding of the struggles and trials of the poor, or at least less moneyed folk. He has been trained in bitter realities not in the misleading comforts of a wealthy life.

7. Finally, it is a deplorable fact that the medical profession constitutes the most conceited class of men in the world. This conceit is in proportion to the length of training the individual has undergone. Very many causes have contributed and continue to contribute to this arrogance. First, there is the length of training and the expense it entails. Secondly, the training is so variegated, it touches such a tremendous variety of topics, taking the cream from each, that the student finally gains the idea that he has exhausted the field of knowledge. Besides this, consider the fact that he is, so to speak, to be "the master of life and death." And finally he is constantly called upon for opinions and advice on the multitude of topics which really require an encyclopedic knowledge. To be sure, he is a superior person, the elite of the civic body. He knows that too well. For has he not survived six to eight years of the most intensive training? It seems unnecessary to increase this megalomania by making the disparity between this training and that for other professions still more pronounced.

The prospect of prolonged training with its accompanying expenditures discourages many of the most promising students. I am personally acquainted with an indefinite number, of whom many were admirable types, students of fine character and mentality, students whom I tried to encourage to continue despite obstacles. In nine cases out of ten, money is the factor that makes students change, money and the prospect of long deferred returns. The tenth case is the student of average mentality, good character, who fears to lose out in the struggle for place because he realizes that he is only an average student. A prolongation of the course of studies means that every one of the objectionable conditions listed will be aggravated to an extent where all but the moneyed student will be barred.

"Yes," said the dentist, "to insure painless extraction, you'll have to take gas, and that's fifty cents extra."

"Oh!" said Casey, "I guess the old way'll be best; never mind the gas."

"You're a brave man," said the dentist.

"Oh!" said Casey, "it ain't me that's got the bad tooth; it's my wife."—*New York Central Magazine*.

## LEGAL STATUS OF PHYSICIANS AND SECTARIANS\*

FREDERICK R. GREEN, M.D.  
CHICAGO

Probably no subject has given rise to so much acrimonious discussion and bitterness of feeling as the efforts of physicians to restrict the practice of medicine to certain individuals or to certain classes. This problem is apparently no nearer permanent solution than it was fifty years ago. The proceedings of our state associations show that every year the adoption of a new medical practice act or of an amendment to the existing medical practice act is among the subjects discussed. At every session of the state legislature, bills creating new practice acts or amending existing laws, and special bills providing for the registration of osteopaths, chiropractors, naturopaths, drugless healers, mental healers and other fantastic sects occupy a considerable share of the session. There is no other subject on which the medical profession in the last thirty years has expended an equal amount of time and energy. Yet, in spite of all our efforts, there is not a single sect or cult, no matter how absurd or fantastic, which has failed ultimately to secure the so-called legal recognition which it sought, in spite of any objection which the organized medical profession might present. Two explanations are usually given for the failure on the part of physicians to prevent the passage of such measures. These are lack of understanding on the part of the public, and indifference and lethargy on the part of the medical profession.

In spite of all our efforts, this question today occupies as large an amount of time and absorbs as much energy as it did twenty-five years ago. That it has not as yet been satisfactorily solved is generally admitted. That its discussion is hampered by our own prejudice is also true. Rarely, if ever, is this question discussed in professional circles with the thoroughness, the absence of personal feeling and the readiness to accept a recognized truth from any source which characterizes our discussions of the scientific questions of medicine. This is largely because, whatever may be our lack of prejudice on other questions, on this subject we are ourselves sectarians and partisans. Yet its practical importance cannot be denied. It is not a scientific question, but an administrative and social question of importance, not only to physicians, but also to the public. Is it not, therefore, worth while for us to consider it, not in the light of our personal and professional prejudice, but rather as an abstract problem, a permanent solution of which would render unnecessary any further waste of time in the needless and profitless efforts of the past?

\*Read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

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Is it not possible that both the indifference of the public and the lethargy of the profession may be entirely justified, that the conventionally accepted attitude of the medical profession on this subject for the last forty years may be based on erroneous premises and inaccurate reasoning, and that, instead of endeavoring to educate the public to our point of view, we might rather attempt to learn something from the public point of view?

#### LEGAL REGULATION

The history of the efforts to restrict the treatment of the sick to certain individuals goes far back into the past. In a primitive civilization or in a simply organized state of society, no restrictions on professions or occupations are necessary. Each individual does what he is able to do for his own benefit or for the benefit of others, without any hindrance. It is only when society has become relatively complex that regulations for the government of various trades, industries, occupations and professions became necessary. There is, consequently, nothing inherently wrong in any individual pursuing any occupation or profession which he may see fit. As society increases in complexity, regulation of many human activities becomes necessary. The violation of such regulations does not constitute inherent crime, as does murder, stealing or various other acts which are in themselves criminal.

The regulation of professions, occupations and trades, legally speaking, comes under what is known as the police power of the state, characteristics of which are that it aims directly to secure and promote public welfare, and that it does so by restraint and compulsion. Under the police power of the state comes a vast multitude of subjects which increase as society becomes more complex. Everything having to do with licenses, reports, registration, prohibition, commerce, safety, public health, public order and comfort, public morals, the regulation of capital, public corporations and property comes under the police power of the state. The only object and the only justification for the exercise of police power is the greatest good to the greatest number, or, more concisely, the general good. Acts which are regulated by police power are, in the majority of cases, acts which in themselves are not culpable and which are wrong only in a statutory sense; that is, because it has been found best for the public good to provide certain regulations for such acts.

Legally speaking, the regulation of the practice of medicine comes under the same classification as the regulation of any other occupation, profession or trade or of any other subject which must be regulated or restricted for the public good. Regardless of the provisions or limitations which may be made, the practice of medicine without a license is never a crime, but only a misdemeanor. It is in the same class as running an automobile or keeping a dog without a license, exceeding the speed limit, permitting a factory chimney to smoke, or violating any other of the thousand and one restrictions and

regulations which modern society has evolved for its own protection.

Without attempting to discuss the history of medical practice acts in this or other countries, all of which I have considered at length in a previous article, it is interesting to note that the present system originated with Dr. N. S. Davis in the early seventies. In the hope of elevating the standard of medical education, Dr. Davis urged the creation of boards of examiners to pass on the qualifications of applicants, entirely separate from the medical faculty which had given the instruction to the student. In other words, as Dr. Davis put it, there should be a complete separation between the educating and the licensing bodies. His demands, which can be found in the proceedings of the American Medical Association from 1867 to 1873, were for the creation of a board of examiners by the state for the examining and licensing of medical college graduates. As a result of his agitation, Texas in 1873, Kentucky and New York in 1874, New Hampshire in 1875, and California and Vermont in 1876, passed laws creating such boards. During the next twenty years, every other state passed some kind of a law on this subject, so that by 1895 there was in practically every state a board created by special enactment charged with the duty of examining and licensing physicians and surgeons.

While differing considerably in details, practically all of these laws are based on the same principles and have the same general characteristics. They have been enacted almost entirely through the influence and at the demand of the regular medical profession. To discuss the numerous laws which have been enacted in the last forty-nine years is impossible. In no state is the original practice act still in force. In each state there has been a succession of laws and amendments enacted making changes from time to time. In the forty-eight states more than 250 separate laws on this subject have been adopted during this period. In 1907, I abstracted and published in the American Medical Association Bulletin all of the medical practice acts then in force, and endeavored to summarize the average law on the subject. The synopsis, which I designated as a composite picture of medical legislation at that time, is equally applicable today, as the general character of these laws has changed but little during the last fifteen years.

No sooner were these medical practice laws enacted than there arose many cases which had to be settled by the courts. These involved prosecution of individuals accused of practicing medicine without a license, efforts by the board to revoke licenses once granted or demands, on the part of persons denied licenses, for a review of their cases by the courts, and the securing of what they considered to be their rights. It is significant that in the ninety years from 1780 to 1870, there had been only twenty-eight decisions in this field in all states, while, in the fifty-two years since



1870, there have been more than 800 cases passed on by supreme courts. In the early seventies, the suits involved mainly the rights of homeopaths and eclectics to practice medicine and to be represented on the examining boards. The appearance of the osteopaths in the late eighties caused a large amount of litigation and the rendering of many decisions, just as did the advent of the chiropractors later on. Each new sect as it appeared aroused opposition, prosecution and appeals to the higher courts, with the final rendering of decisions which established the legal status of the sect or cult, whatever it might be.

#### COURT DECISIONS

To discuss these eight hundred supreme court decisions in detail is impossible. In 1915, the Council on Health and Public Instruction published a digest of supreme court decisions on the state regulation of the practice of medicine, up to that date. In this digest these decisions were abstracted, indexed, analyzed and summarized. The decisions which have been rendered since that time are in the main simply confirmatory of the previous decisions, and do not in any sense alter the principles laid down.

The final decisions of the courts of last resort are recognized as final authority on any legal question. What are the conclusions which can be drawn from the opinions of the various supreme courts on this subject?

They hold that the sole justification for the enactment of medical practice acts is the protection of the public from incompetent and unscrupulous persons; that the state has a right to enact laws making any reasonable standards for the practice of medicine; that the object of such laws is not the benefit of the physician, but the protection of the public; that it is not the function of the state, through either its legislature or its courts, to decide scientific questions or to determine the scientific value of one school or method of practice as compared with another, or to decide the relative value of different forms of treatment; that the sole interest of the state in the practice of medicine is the regulation of medicine as a business; that the legislature is justified, for the public good, in establishing and enforcing reasonable regulations under which such business may be carried on; that the qualifications and conditions exacted must be reasonable and equitable and must be the same for all those who desire the same privileges, and that the function of examining boards is to test the qualifications and knowledge of applicants in order to determine whether they may be properly entrusted with the treatment of the sick.

#### MEDICAL PRACTICE ACTS

The accumulated experience of the medical profession on this question in the different states for the last fifty years, and the history of the various experiments that have been tried, and of the attitude of the public, the courts and the legislatures, forms an interesting chapter in the history of ap-

plied medicine. To discuss them in detail, under present limitations, is impossible. Summing up the situation, we find that after years of effort and experiment, the essential problem is no nearer solution than it was in the beginning.

Each state has on its statute books a medical practice act, which has been secured at great expense of time and labor on the part of physicians. It is in constant need of defense; it is not effective in accomplishing the purpose for which it was enacted; it is not understood or supported by the public for whose protection it was passed; it is of no special value to physicians because it handicaps the honest practitioner, but does not deter the faker or the charlatan, and it does not prevent any new sect, which may arise, from overriding its provisions. The public, feeling that such laws are for the benefit of physicians, is not and never has been especially interested in their enforcement.

By our insistence on the passage of these laws and through keeping their administration in our own hands, we have strengthened and confirmed this public misconception. As a result, we now have a cumbersome and ineffective machinery, supported largely at the expense of physicians, which has to be defended continually against assault, which occupies a large part of our time and energy, which might better be devoted to better purposes, keeps us in a false position before the public and arouses and keeps alive antagonism against the medical profession. The present laws do not accomplish the purpose for which they were created, and the efforts to adopt and administer them have in many states dragged the medical profession into politics and have prostituted our scientific organizations without any compensatory benefit to us or to the public.

Is it necessary to pursue this indictment further? Let us look at the question from an outside point of view and apply it to some other class. Suppose that the owners of automobiles should appear each year before legislatures, asking for the passage of laws restricting the use of automobiles to certain individuals; that they should insist that the membership of all boards and the appointment of all administrative officers in carrying out these regulations should be controlled by automobile owners, and that only those persons who owned a certain kind of automobile should be permitted to have a license. Can you imagine the shout of derision that would go up from the people of the state at such a request? Yet this proposition is identical with the method now existing for the regulation of the practice of medicine.

#### LICENSES

It seems impossible to disabuse the minds of physicians, who have grown up under the present licensing system, of the idea that a license is an official endorsement by the state of a system of treatment. Evidently, the followers of the various sects have the same idea, since they present bills before legislatures asking for special boards of ex-

aminers and special standards of education and qualifications on the plea that they want recognition from the state—as though the legislature were a jury qualified to pass on scientific questions, and the passage of a bill creating a board of examiners for one sect or another amounted to a certificate of merit or an endorsement of the methods followed. Such a conception shows a complete misunderstanding of the legal character of medical practice acts. A license to practice medicine is not a recognition of anything. It is simply a permit to do something. Legally, it is exactly in the same class as a license to run an automobile or to own a dog. No one would claim that an automobile license constituted a recognition of an Overland, a Pierce-Arrow or a Ford as being any better than any other machine on the market. Certainly no intelligent person would claim that a dog license was an endorsement or a recognition of an Airedale, a Boston bull or a collie. They are all of them simply permits by the state to do something which the state has restricted for the public good. A license to treat the sick is simply a permit from the state to carry on a certain business which has been by statute restricted to those holding such licenses. The license is evidence of the fact that they have complied with certain restrictions which the state, for the public good, has seen fit to require.

It is, of course, obvious that if there were only a single school of medicine and a single class of practitioners, there would be no difficulty regarding licenses. The problem of sectarianism is, therefore, inseparably involved in the discussion of the regulation of the practice of medicine. It is characteristic of each generation of physicians to regard the sects and cults of their own day as the only ones that have ever existed. To the physician of today, especially the man under middle age, homeopathy and eclecticism are simply names. Osteopathy is something that has existed throughout his entire professional activity. Chiropractic, as the newest, the most absurd of the many sects in medicine, is the only one which arouses the antagonism of the present generation of physicians. Yet history shows that sects of various kinds have been a constant accompaniment of the medical profession.

#### CHARACTERISTICS OF SECTS

When the characteristics of all the sects in medical history are tabulated, it will be seen that they follow a surprisingly uniform course. Practically every medical sect, like every religious sect, arises through the peculiar teachings of some individual, who bases a new and strange system of healing on his own fantastic ideas, rather than on the accumulated knowledge, experience and wisdom of the human race. Without going back of the last hundred years, it is only necessary to mention Samuel Hahnemann as the founder of homeopathy, William Thompson in eclecticism, Mrs. Eddy as the high priestess of Christian science, Andrew Still as the originator of osteopathy, and Palmer,

the magnetic healer of Davenport, Iowa, who invented chiropractic.

A second characteristic of sectarianism is that each cult starts with a small group of enthusiastic followers, personal disciples of the leader, who throw themselves into the propaganda with all the enthusiasm of religious fanatics. The parallelism between medical and religious sectarianism is indeed very marked. This group of followers grows first through personal contact and later through various methods of promotion.

The third peculiarity is that each sect evolves some new and fantastic theory regarding the cause of disease. Samuel Hahnemann taught that all disease was caused by the itch; Mrs. Eddy found the explanation for all mortal ills in mortal mind; Still taught that the human body was a machine and that all afflictions were due to the dislocation of some part; Palmer went Still one better and taught that all abnormal conditions of the body were due to the dislocation of one of the spinal vertebrae. It is worthy of note in this connection that all of these sects personify disease and regard it as an entity, rather than as any one of a great variety of abnormal conditions; that they all seek to attribute disease to a single cause, and to remove it by applying a single method of treatment.

A fourth peculiarity, common to all medical sects, is that they have a regular order of development and decay. Starting originally with the leader, who is regarded as inspired, the first generation of followers accepts the new method of treatment as a solution of all human ills. Later on, they recognize the limitations of their method and learn by practical experience that there are many conditions to which their methods are not applicable. As time goes on, their teachings are modified by force of circumstances and by contact with the practical world. They gradually drop their fantastic notions; recognize the limitations of their methods; profit by the general knowledge of the medical profession and, in time, lose their distinctive characteristics and merge themselves in the great mass of physicians. This has happened in our own day with the homeopaths and the eclectics. Osteopathic schools are now offering courses in minor surgery, obstetrics and, in some cases, general surgery. In ten or fifteen years from now, it is safe to say that such osteopathic schools as still exist will be giving the best courses they can offer on diagnosis and treatment and, in the next twenty-five years, osteopathy will have become a name without any meaning—just as homeopathy and eclecticism have today.

This, again, is in line with religious sectarianism, which, like medical sectarianism, originates in an individual, is promoted by his immediate disciples, starts out to conquer the world, and eventually settles down into one of the innumerable sects of Christendom. Ask the average Presbyterian who John Calvin was and what the seven points of his theology were, and he couldn't tell you, to save

his soul from perdition, even if he knows he is one of the elect. How many Episcopalians know why their church separated from the Church of Rome? How many Methodists can tell you anything definite about John and Charles Wesley, or how many Baptists know why they believe in immersion rather than sprinkling? Twenty-five years from now the Christian Science church will be indistinguishable from other orthodox churches. Mrs. Eddy, before her death, recognized the limitations of her own teachings, and advised her followers to consult surgeons in cases of broken bones. The mother church at Boston long since instructed its healers to comply with state and municipal regulations regarding infectious diseases. Christian Scientists go to dentists for defective teeth and to oculists for errors of refraction. To expect the followers of either religious or medical sects to be consistent or logical is to expect the impossible. If these people had consistent or logical minds, they would not be sectarians.

#### THE QUESTION OF PATERNALISM

One of the principal reasons for antagonism to medical practice acts has been the opposition of the followers of these various cults and sects, who felt that their liberty was being interfered with by the enactment and enforcement of medical practice acts. This has given rise to various local movements and, at the time of the agitation for the passage of the Owen Bill in Congress—from 1910 to 1914—gave rise to a national movement known as the National League for Medical Freedom. As is usually the case in sectarian controversies, both the knowledge and the methods of these agitators were open to criticism. At the same time, it cannot be denied that there is a certain amount of justice in their position. Huxley, many years ago, when the British medical practice act was under consideration, stated clearly that it was not desirable for the state to attempt to substitute restrictive legislation for individual judgment on questions relating solely to individual rights, and that it was better, in the long run, for each person to be responsible for his own well-being and to be free from any paternalistic supervision by the state. The courts have recognized in all their decisions that there are three classes who are entitled to special protection. These are, first, the child who is below the age of intelligent judgment and is, in the eyes of the law, an infant and a ward of the state, and as such is entitled to protection. This principle was emphasized by the supreme court of New Jersey in the celebrated case in which the parent, who was a Christian Scientist, was brought before the court for permitting his child to die from diphtheria on account of the parent's disbelief in antitoxin. The court, while recognizing the right of the parent to his own belief, denied the right of the parent to sacrifice the child, whose life might have been saved by recognized scientific methods.

The second class entitled to special protection consists of those who, through lack of mental de-

velopment or through mental affliction, are incapable of exercising sound judgment. The insane and the feeble-minded, like the child, are wards of the state and are, as the courts have repeatedly held, entitled to the best care available scientific knowledge can give them.

The third class subject to special consideration, not on its own account, but for the public good, consists of those persons suffering from communicable diseases which may be a source of infection to others. Here the public good demands that they be given such care and treatment as will render them harmless to the community, and this can, if necessary, be carried even to the restriction of their liberty.

But, with the exception of the child, the insane person and the person suffering from a disease dangerous to others, any sane adult who has a bodily affliction which is not a danger to others has a right to control his own body and to take such treatment or refuse such treatment as he may see fit. If he wishes to consult an osteopath, a chiropractor, a Christian Scientist, a voodoo doctor, a witch doctor or a pow-wow doctor; if he wishes to treat his rheumatism by carrying a horse-chestnut or a potato in his pocket; if he prefers incantations to scientific treatment; if he likes prayers better than powders, or if he wants charms rather than surgery, he has a perfect right to do as he sees fit, and the state has no right to compel him to submit his body to any treatment that he does not desire. If he errs through ignorance, he must suffer the effects of his own poor judgment, just as he would in any other activity in life. Physicians must recognize this right on the part of the layman, just as they assert their own right to individual judgment on other questions.

#### BASIS OF INTELLIGENT AND EQUITABLE REGULATION

Does this mean, then, that there should be no regulation of physicians or sectarians? By no means. Undoubtedly, there should be intelligent and equitable regulation by the state for the public good. What, then, is the remedy for the present absurd and unsatisfactory situation? It is for the medical profession to surrender to the public a function and a responsibility which it never should have assumed. If the people, for their own protection, desire to impose certain restrictions on those who wish to treat the sick as a profession for compensation, then it is the business of the public to determine the conditions and administer the machinery by which such regulations shall be carried out. Whether an individual is qualified to treat the sick is an educational and not a sectarian question. Its enforcement should be in the hands, not of physicians, but of the educational authorities of the state.

Having complied with the requirements of the state, which should be as high as they can be made, consistent with the public welfare, and having received a license, each person so licensed should be at liberty to follow any method of treatment or



school of practice which he may see fit, subject only to the common law limitations on professional responsibility. Any physician who undertakes to treat the sick is subject, under the common law, to definite liabilities for the character of his treatment and of his services. But there should be one standard for all, and the task of defending such laws and elevating the standard belongs to the public and not to physicians. If the rights of physicians are invaded, then we can go before legislative bodies and frankly and openly fight for our own interests. If the requirements are unfair or unreasonable in any way, then physicians can, with perfect consistency and with a clear conscience, appear before legislative committees and insist that reasonable provisions be adopted. But the protection of the public belongs to the public itself, and it can be safe in no other hands.

It is difficult to understand when or how the fiction arose that the medical profession is a divinely authorized and chosen class, charged with the protection of the public health and public welfare, even against the desires and the wishes of the people themselves. Such a doctrine savors far too much of imperialism to be particularly popular at the present day. Abraham Lincoln was emphatically right when he said he did not believe any man was good enough to govern any other man against his will. I do not believe that any man or any class of men is good enough or wise enough to be charged with the responsibility of protecting the people without their consent. We have in the last fifty years been assuming a burden which did not belong to us. To this extent we have pauperized the people by depriving them of their own responsibility. The sooner this responsibility is returned to the people, where it belongs, the better it will be for the public and the medical profession.

Recognition of these principles has been slowly growing in the last fifteen years. In New York, the regulation of all occupations, professions and trades is under the jurisdiction of the board of regents of the state university. In 1911, Tennessee provided for a board of three educators as a board of preliminary examiners. But there was no general recognition of the duty of the state to regulate professions and trades through a definite department of the state government until 1916, when Illinois adopted what is known as the Illinois Code, creating as one of nine departments of the state government a department of registration and education with an educator at the head, which was authorized to examine and license physicians, surgeons, dentists, pharmacists, nurses, embalmers, optometrists, barbers, midwives, architects and structural engineers. Included in this list, by inference, was the entire group of so-called drugless healers. Nebraska and Idaho have adopted similar laws. The Illinois law today stands as the most complete and logical method for the solution of this vexing problem that has as yet been found. I

would commend a careful study of the Illinois Code to all those interested in this question.

#### CONCLUSIONS

Summarizing the discussion of this subject, we are led to the following conclusions:

1. The regulation of those desiring to treat the sick should be based on educational rather than sectarian standards. Such regulation should be administered by the state educational authorities. For economical and efficient administration, the regulation of all professions, occupations and trades supervised by the state government should be placed in the hands of a single state department, which should have as its head an educator of recognized standing and demonstrated executive ability. This department should have the power to appoint examining and advisory committees for each of the different groups, the general educational standards being under the control of the department, which should also control the actual granting of licenses, as well as prosecutions for violations of the law. In the smaller states, in which the creation of a distinct department of the state government would be difficult, for practical reasons, a board of examination and registration, consisting of three educators of recognized standing with power to appoint examining committees for the different occupations, professions, schools, etc., will best meet the local needs.

2. Whatever machinery for regulation is adopted, it should be recognized that the object for such regulation is the protection of the public, and that the people should pay for this protection as they pay for protection from any other danger. Such laws are emphatically not intended for the restriction of competition among practitioners. It is no more the business of the state to protect a physician against competition than it is to protect a drygoods man, a furniture dealer or a grocer. The only justification for restricting the liberty of any person is the public good. It follows, therefore, that the public should pay for this protection. Any scheme whereby a department or bureau of registration and examination is supported by fees is unfair, in that it places the expense of maintaining such a bureau on those who are restricted for the public good. Fees should be fixed at a nominal figure. All fees received for examinations or licenses should be turned into the state treasury, and all expenses of administering the laws and prosecuting violators should be paid out of the state funds by regular appropriations. Under the present system, in most states physicians are not only unfairly and unjustly restricted, but they are also compelled to pay the cost of their own restriction for the public good, a plan that is manifestly unfair and which should be abolished at the earliest possible moment. The people should pay for their own protection, and they should understand that they are paying for it and that they are entitled to it.

A third principle on which the medical profession

should insist is that all persons desiring the same privileges should be required to comply with the same educational standards, without regard to the school from which they graduated or the sect to which they belong. Special sectarian standards are simply a back door to the medical profession, by which the sectarian endeavors to secure equal privileges at a lower cost. The moment equal educational qualifications are insisted on, sectarianism will be wiped out, since no one will elect a limited license as a sectarian if, for the same price in time and money, he can secure an unlimited license as a physician. In application, however, the converse of this proposition must also be recognized; namely, that all persons complying with the same standards are entitled to the same privileges. If the osteopath, the chiropractor or the drugless healer desires to perform all the functions of a physician, he should be required to possess exactly the same qualifications and comply with the same standards, but, having complied with such standards, he should then be allowed the same privileges.

It is not anticipated or claimed that the recognition of these principles or the adoption of the method best exemplified by the Illinois plan will result in a medical millennium, any more than the adoption of any other single law. This discussion is presented in the hope that it will, to some extent, throw light on this perplexing situation and will enable those physicians who are interested in better social and professional conditions to secure more satisfactory laws, to profit by the experiences and mistakes of the past, thus relieving the medical profession of the embarrassment and confusion in the public mind under which it has labored for half a century, and, especially, that it will enable physicians, in the future, to conserve their strength and energies for professional and public activities, rather than to dissipate them in the useless and unproductive wrangling of the last half century.

#### THE CHIROPRACTORS ARE GOOD ADVERTISERS

The chiropractors are good advertisers. They not only use newspapers and billboards, but they use their advertising on blotters, paper bags, fans and other useful articles that are distributed gratis to the public. We also have noted in last month's *Journal* that the churches are worked to the limit to further chiropractic delusion. Probably the next thing will be for our ministers to include in their prayers something like the following: "And, good Lord, in bestowing thy blessings upon the President of the United States and other high personages, please do not forget the members of the chiropractic faith, who promise to deliver the world from all physical infirmities and afflictions—yea, even to the growing of hair on the bald heads of the deacons in our churches—through the medium of simple mechanical manipulation. And, O Lord, we beseech Thee to pour your richest blessings down upon the heads of these wonderful bene-

factors." In reality, this may not be so much of a joke either, for we shall not be surprised if more than one minister is deluded into offering such a prayer in the sincere belief that he is increasing the chances of the sick and the maimed to become well.—*Journal Indiana State Medical Association.*

#### IMPORTANT ANNOUNCEMENT

The medical profession everywhere will be interested in the announcement that The Abbott Laboratories of Chicago have purchased the Dermatological Research Laboratories of Philadelphia. This is an advance step for the Abbott Laboratories and will give them deserved recognition among the leading manufacturers of medicinal chemicals.

It will be remembered that the Dermatological Research Laboratories were the first in the United States to produce Arsphenamine during the war when there was such a scarcity of this article; and these laboratories became well known to the medical profession for their patriotic attitude in developing and manufacturing medicinal preparations in this country. By this purchase of the "D. R. I." products, the Abbott Laboratories inherited their prestige.

The Abbott Laboratories acquired control of the Dermatological Research Laboratories on November 1st; and they are continuing to operate them in Philadelphia under the direction of Dr. Geo. W. Raiziss, head of the department of Chemistry, and his corps of specially trained assistants. Orders for "D. R. I." products will be promptly filled from the Philadelphia laboratories or from the home office of The Abbott Laboratories, Chicago, or by any of their branches or distributors.

BAYARD HOLMES.

#### Correspondence

#### THE ORGANIZATION OF THE MEDICAL PROFESSION INTO A FIXED ARISTOCRATIC TRADES-UNION

Chicago, Ill.,

October 23rd, 1922

To the Editor:—The external economic pressure from industrial medicine, state medicine, and hospital exploitation, upon the medical profession, has not been the only factor in bringing about its embarrassing isolation and helplessness. Some 28 years ago the loose Democratic National Association which had slowly grown up after its first formation in 1850, lost its code of ethics, and submitted to a dual organization, designed to separate the scientific from its corporate activities. In other words, the organization of two American Medical Associations. Two franchises and two houses were established, and like Napoleon's two Chambers of Notabilities, in one it is permitted to talk but not vote, in the other

to vote, but not to talk. The Trustees are a permanent unapproachable body. The open meetings cannot initiate or act on matters of professional policy. Seven years would be the shortest time in which reorganization could be consummated, were the whole body of medical men determined upon it.

With the Star Chamber organization has come a medical press, dictated by the same political patientless medical officers. We have in the U. S. one great National Weekly, under the National Association, one state semi-monthly medical journal under State Organization, but no Independent weekly medical journal (See Congressman Volk's speech, June 30, Extension Remarks).

The score or more of State Monthly medical journals, are with one notable exception, dominated by the National Organization, and edited impersonally. A few special monthly journals, and one or two state journals, and one or two state monthlies remain free from domination from above. The fact remains that the medical press of this country is impersonal and timid. There is scant opportunity for the effective expression of the opinions of the serious physicians, either on the floor of the local medical society or in the medical press; there is no opportunity for the effective expression of the opinions of serious physicians with administrative officials and the lay press. For three years these have been steered almost entirely by "Committee" or "Council" influences from the corporate franchise.

## Society Proceedings

### BOND COUNTY

Tuesday, October 31, 1922, will be long remembered by the members of the Bond County Medical Society, who were on this day the guests of Dr. and Mrs. John H. Gordon at Pocahontas, the occasion being in honor of Dr. Gordon's 80th birthday.

The doctors assembled at Dr. Gordon's office at 10:30 a. m., Dr. C. H. Powell of Pocahontas, president of the association, presiding. After the regular business meeting, Dr. C. H. Diehl of Effingham read a paper on "Public Health and Practicing Physicians." This was a splendid paper and brought quite a discussion, from Drs. Powell, K. B. Luzader, C. B. Johnson, of Champaign, E. W. Fiegenbaum of Edwardsville, A. F. Kaeser, of Highland, L. O. Frech, of Decatur, and W. T. Easley of Greenville.

The members of the association, their wives and guests, about 40 in all, were invited to the palatial

Gordon home, for dinner, where they found the table groaning under everything that was good to enter into man.

At the head of the table was a large birthday cake, on which were 80 burning candles, one for each year of the doctor's age. The dining room was decorated in orange and black, suggestive of the Halloween season, and large bouquets of cut flowers graced the table.

Following the dinner, toasts were offered to Dr. Gordon by Dr. Easley, Dr. Johnson, Dr. Fiegenbaum, and Dr. Kaeser. Dr. Fiegenbaum spoke of the life of a doctor, from the horse and saddle bags to the present day mode of travel. At the close of the toasts Dr. Johnson suggested that all sing America, and at Dr. Gordon's request they sang the good old song, which always brings tears to the eyes, "God be with you till we meet again."

### Organize Auxiliary

During the afternoon the wives of the physicians organized the Bond County Medical Society Auxiliary, and the following officers were elected: past president, Mrs. J. H. Gordon; president, Mrs. W. T. Easley; vice president, Mrs. A. M. Keith; secretary-treasurer, Mrs. H. D. Cartmell. The object of the new organization is to create greater friendship and sociability among the doctors and their wives.

At two o'clock the association was again called to order and Dr. L. O. Frech of Decatur addressed the doctors on "Medical Ethics and Organization" and this talk was very much appreciated and created some deep thinking among the medical profession. Dr. C. B. Johnson read a paper, first by prefacing it with the history of his early life. At the close of the business session Dr. Gordon appeared before the doctors clad as an early pioneer doctor, with his saddle bags across his shoulder.

A vote of thanks was extended Dr. and Mrs. Gordon for the splendid dinner and entertainment and a vote of thanks was also extended to the visiting doctors, who read such splendid papers, and all departed wishing the doctor and his noble wife many years to come of the joys of this life.

Among those present were Dr. and Mrs. A. M. Keith, Dr. K. B. Luzader, Dr. and Mrs. W. L. Hall, Dr. and Mrs. C. H. Powell, Dr. and Mrs. Wm. T. Easley, Dr. and Mrs. H. D. Cartmell, Dr. and Mrs. D. R. Wilkins, Dr. and Mrs. E. A. Glasgow. Visiting physicians were Dr. C. B. Johnson, Champaign, Dr. L. O. Frech, Decatur; Dr. C. H. Diehl, Effingham; Dr. E. W. Fiegenbaum, Edwardsville; Dr. C. G. Schmidt, St. Jacob, and Dr. A. F. Kaeser, of Highland.

### COOK COUNTY

#### CHICAGO MEDICAL SOCIETY

*Regular Meeting, November 8, 1922.*

1. Nephritis in Infants and Children.—A. Levinson.  
Discussion—I. A. Abt and O. Schultz.
2. Diathermy and Radiotherapy in Malignant Tumors.—Gustav Kolischer.



Discussion—D. N. Eisendrath and Robt. A. Arens.

*Regular Meeting, November 15, 1922.*

This being Cancer Week throughout the United States the Chicago Medical Society is having the following program on Cancer:

Pathogenesis—Oscar T. Schultz.

Salient Points in Diagnosis and Treatment of Cancer—

1st. The Breast—Henry F. Lewis.

2nd. Stomach—A. A. Goldsmith.

3rd. Uterus—Arthur H. Curtis.

4th. Prostate and Bladder—Wm. T. Belfield.

5th. Rectum—J. R. Pennington.

General discussion.

*Regular Meeting, November 22, 1922.*

1. Clinical Observations on Infantile Eczema—Jesse R. Gerstley.

Discussion—David Lieberthal and E. A. Oliver.

2. The Diagnosis and Treatment of Renal Calculi—Daniel N. Eisendrath.

Discussion—L. E. Schmidt, Gustav Kolischer and John S. Nagel.

### Personals

Mr. James Minnick, formerly director of the Chicago Tuberculosis Institute, was the guest of honor at a banquet in River Forest, November 4, given by his associates of the Social Workers' Country club, on the occasion of his removal to New York where he will enter the employment of the Drexel Mutual Insurance company.

Dr. Cassius C. Rogers gave an address before the Coles-Cumberland Medical Society, in Charleston, November 9.

Dr. Jacob W. Bolotin, attending physician to the Municipal Tuberculosis Sanitarium of Chicago, gave an address before the Livingston County Medical Society at the tuberculosis sanitarium in Pontiac, November 9.

Dr. James M. Neff, Chicago, was the principal speaker at a banquet of the Kankakee County Medical Society in that city, November 8.

The Pasteur lecture for 1922, of the Institute of Medicine of Chicago, was delivered by Dr. Jacques Loeb of the Rockefeller Institute, November 24.

Drs. Charles E. Wilkinson, Danville, and H. N. Rafferty, Robinson, were elected president and secretary, respectively, of the Wabash Valley Aesculapian Society, recently at the annual meeting in Paris.

In the case of Dr. Preston O. Carrico, Ashmore, charged with manslaughter through an illegal operation, it is reported that the verdict of guilty was set aside and the case remanded for a rehearing.

Dr. Leo B. Couch, Prairie du Rocher, is recovering from the effects of coming in contact with a live wire when fixing a radio aerial wire. The first finger of his left hand was burned entirely off.

According to reports, the jury, in the case of Dandurand against Dr. Shirley W. Lane, Kankakee, returned a verdict of not guilty, October 13, and completely exonerated Dr. Lane from blame. He was charged with malpractice in the setting of a fractured arm.

Dr. Harlan W. Long, head of the Peoria U. S. War Veterans' Bureau, has received the French bronze medal of honor for work in epidemics. Dr. Long served as major, M. C., U. S. Army, during the World War, and the French Ministry of Social Hygiene and Welfare awarded the medal in recognition of his services in treating influenza in southern France.

Dr. Justus V. White, of Decatur, has received from the United States Veterans' Bureau the appointment of Attending Specialist in Eye, Ear, Nose and Throat for the Decatur district.

### News Notes

—Cancer Week, November 12-18, was generally observed by suitable programs at medical and public meetings. The Chicago Medical Society had such a program at the meeting of November 15. A clinic was held in St. Joseph Hospital, Elgin, on the 17th with a public meeting in the High School in the evening devoted to the subject of cancer. Dr. F. A. Besley of Chicago gave an address on that subject illustrated by films. Dr. A. B. Kanavel of Chicago addressed a large audience in Aurora on Cancer, November 15.

—The National Tuberculosis Association plans to raise \$5,000,000 in its seal drive this month, Illinois' quota to be \$200,000 outside of Chicago. The State Association will distribute 25,000,000 seals through its local branches.

—Illinois has at last been admitted into the "registration area" for births by the U. S. Bu-

reau of the Census, as the result of a thorough checking of the certificates returned in June.

—The second annual meeting of the Association of Military Surgeons of Illinois will be held at the Army and Navy Club, Chicago, November 20, under the presidency of Col. Gustavus Blech. Dr. Frank Billings will address the meeting.

—Ground has been broken for the new laboratory of the department of hygiene and bacteriology of the University of Chicago, which when completed will be devoted to bacteriologic and chemical research. It will be erected at a cost of \$50,000.

—It is reported in the press that the grand jury investigating irregularities at the Municipal Contagious Disease Hospital exonerated Dr. Arthur E. Gammage from responsibility.

—If the Children's Memorial Hospital can raise the sum of \$1,000,000 within two years for an endowment fund, \$333,333 will be donated to it, under the will of John P. Wilson, Sr. If the endowment is not subscribed the institution will only receive the sum of \$50,000.

—Under the auspices of the Chicago Painters' District Council, a health campaign will be conducted among union painters for the purpose of decreasing occupational diseases and injuries, it was announced, November 12. Members of the union will be examined by physicians at regular intervals as part of the campaign.

—At a meeting of the Iowa and Illinois Central District Medical Association, held in Davenport, Iowa, Dr. James Dunn read a paper on "Some Points in Infant Feeding," and Dr. Rollin T. Woodyatt, associate professor of medicine at Rush Medical College, Chicago, read a paper on "The Management of Diabetes Mellitus."

—Contracts amounting to almost \$500,000 have been let for the medical research library to be erected in connection with the medical group of the University of Illinois. The building will comprise five stories of library and laboratory facilities, with adequate equipment for all kinds of medical research. The institution will be erected south of Cook County Hospital. It will be in Gothic style, finished in brick and stone.

—Prof. D. Pahle, assistant professor of physics at the University of Frankfurt, Germany,

arrived in Chicago, November 18. Under the auspices of the American Society for the Control of Cancer, he will give a series of demonstrations of the deep-therapy roentgen-ray machine at the Norwegian-American Hospital. Dr. Pahle is assistant to Dr. Dessauer.

—Lectures will be given by members of the Chicago board of education to instruct parents of school children in morality, ethics and sex hygiene, it was announced, November 17. The lectures will be given at night in the school buildings. Trustees who will lecture are Drs. Klarkowski, Sadie Bay Adair, John Dill Robertson, Mr. Hart Hanson and J. Lewis Coath. There are approximately fifty community centers and thirty evening schools, in addition to the parent-teacher organizations in Chicago.

—An ordinance was introduced at a meeting of the Chicago city council, November 15, to create a health and safety commission composed of the chief of police, the health commissioner, the building commissioner and two civilians. The purpose of the commission was set forth as follows:

"It shall be the duty of the commission to make a complete and comprehensive survey of all premises and neighborhoods in which it is alleged or suspected that prostitution is carried on, for the purpose of enforcing the health, sanitary, safety and police regulations, and for the purpose of securing the maximum protection for the public against the dangers of prostitution, disease, fire and accident existing therein."

Under the measure, the commission would be given power to enforce all laws, ordinance and regulations pertaining to vice and prostitution.

—Following the examination of 141,811 school children in Chicago, health officials found that 88,343 had defective teeth, or oral conditions that needed treatment. The commissioner of health, with the cooperation of Dr. Arthur D. Black, dean of the Northwestern Dental College, has made arrangements by which certain groups of school children will be given dental treatment at that institution. It is planned to take care of at least twenty children daily. A charge of from 15 to 25 cents will be made for those whose parents are able to pay.

—The National Board of Medical Examiners

announces the following dates for its next examinations:

Part I. February 12, 13 and 14, 1923.

Part II. February 15th and 16th, 1923.

The fees for these examinations have been continued at the reduced rate for another year. Applications for these examinations must be forwarded not later than January 1, 1923. Application blanks and circulars of information may be obtained from the Secretary of the National Board, Dr. J. S. Rodman, Medical Arts Building, Philadelphia, Pa.

—Dr. S. J. McNeill, counselor of the third district of the Illinois State Medical Society, reorganized the DuPage County Medical Society at Wheaton, Ill., November 23 with a membership of forty. Dr. E. H. Ochsner, president-elect of the Illinois State Medical Society, gave an interesting discourse on what the Illinois State Medical Society has done for higher medical education. Dr. Chas. B. Humiston, past president of the State society, gave an interesting talk on items relating to the progress of medicine. Dr. C. B. King, chairman of the Medico-Legal committee of the State society, gave an interesting talk on the Medico-Legal aspect of the Illinois State Medical Society. Dr. F. O. Fredrickson, president of the North Shore branch of the Chicago Medical Society, gave a talk on the management of the County Medical Society. Dr. Richard B. Oleson gave a talk on the history of the DuPage County Medical Society. A very profitable and enthusiastic evening was enjoyed by all present and much stimulation was induced for furthering DuPage County Medical Society.

## Deaths

MARTIN BOWEN ARNOLD, Chicago; Eclectic Medical Institute, Cincinnati, 1864; died, November 12, aged 87, from pneumonia.

CHARLES C. BERNARD, Chicago; Chicago Homeopathic Medical College, 1882; member of the Illinois State Medical Society; attending eye and ear surgeon to the Illinois Masonic Hospital; died, October 29, aged 66, from pneumonia.

WILLIAM BURR CALDWELL, Monticello, Ill.; Rush Medical College, Chicago, 1875; also a druggist; died, October 11, aged 83, from senility.

SUSIE L. BURKETT, Chicago; Harvey Medical College, Chicago, 1905; specialized in gynecology; died,

November 3, aged 47, from carcinoma of the stomach and liver.

HENRY C. DALE, Chicago; Bennett Medical College, Chicago, 1883; died, November 15, aged 66, from cerebral hemorrhage.

THEODORE DROSDOWITZ, Chicago; Rush Medical College, Chicago, 1897; died, October 21, aged 54, from heart disease.

GUSTAV A. FUTTERER, Chicago; University of Wurzburg, Germany, 1893; professor of gastro-enterology at the Chicago Polyclinic; formerly served with the M. C., U. S. Army; consulting physician to the former Marion Sims Sanatorium; member of the Chicago Pathological Society, Society of Medical History of Chicago, and the German Congress of Internal Medicine; aged 66; consulting physician at the Columbus Hospital, where he died, November 3, from heart disease.

WILLIAM MCMINNE HANNA, Aurora, Ill.; Rush Medical College, Chicago, 1886; Civil War veteran; died, November 4, aged 82, from senility.

THOMAS M. JOHNSON, Galatia, Ill.; Marion-Sims College of Medicine, St. Louis, 1895; aged 55; was found dead in his garage, October 26, from heart disease.

FRANK SMITH LOWER, Chicago; Jenner Medical College, Chicago, 1910; also a chiroprapist; aged 40; died, November 3, from the effects of an overdose of morphin; presumably self-inflicted, while despondent over ill health.

ARTHUR W. OHARRO, Chicago; Rush Medical College, Chicago, 1896; died, October 20, aged 52, from carcinoma of the tongue.

WILLIAM AUGUSTUS QUINN, Chicago; College of Physicians and Surgeons, Chicago, 1894; member of the Chicago Dermatological Society; professor of dermatology and syphilology at Loyola University School of Medicine, Chicago; formerly associate instructor in skin and venereal diseases at Rush Medical College; on the staffs of the St. Joseph's, Mercy, Frances Willard and St. Bernard's hospitals; died, October 17, aged 53, from myocarditis and chronic nephritis.

JOHN H. RILEY, DeKalb, Ill.; Baltimore University School of Medicine, 1899; member of the Illinois State Medical Society; formerly on the staff of St. Elizabeth's Hospital, Chicago; at one time surgeon on the Red Star liners; died, November 8, aged 47, at the Wilgus Sanitarium, Rockford.

WILLIAM SONDERICKER, Woodstock, Ill.; Hahne-mann Medical College and Hospital of Chicago, 1887; died, October 24, aged 60.

JOHN M. WILCOX, Clinton, Ill.; Northwestern University Medical School, Chicago, 1879; member of the Illinois State Medical Society; former president of the county medical society and of the pension board; surgeon to the John Warner Hospital; member of the school board and local surgeon for the Illinois Central Railroad; died, October 23, aged 76, from chronic nephritis.



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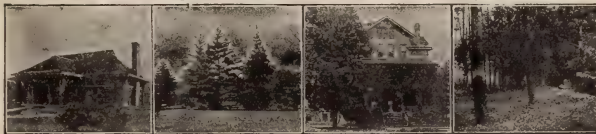
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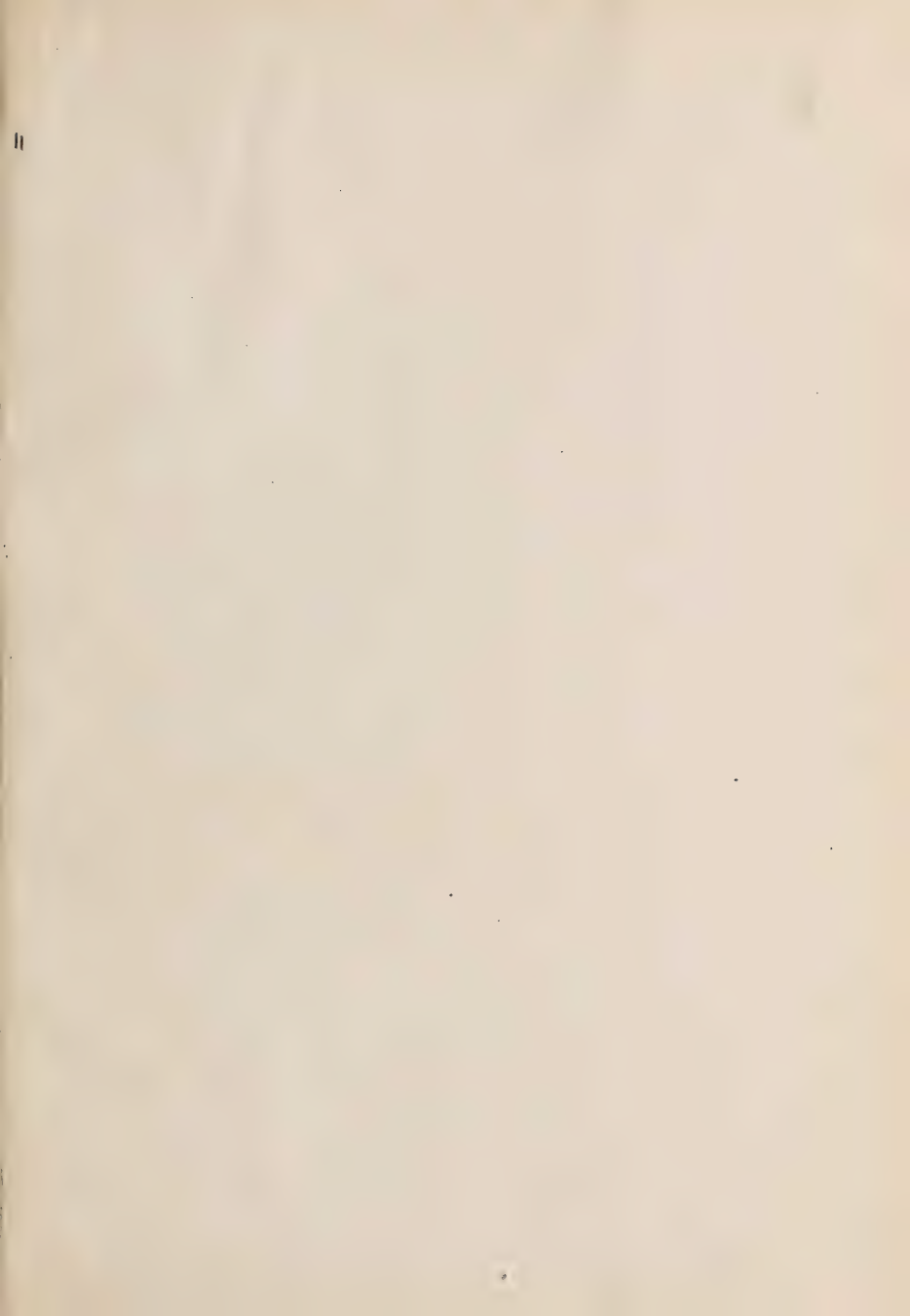
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